



Character Converter

Dec	Hex	Oct	Binary	Chr	%	HTML	Name
0	00	00	00000000		0%	.	Null
1	01	01	00000001	.	.	.	SOH - Start of heading
2	02	02	00000010	.	.	.	STX - Start of text
3	03	03	00000011	♥	.	.	ETX - End of text
4	04	04	00000100	♦	.	.	EOT - End of transmission
5	05	05	00000101	♣	2%	.	ENQ - Inquire
6	06	06	00000110	♠	.	.	ACK - Acknowledge
7	07	07	00000111	•	.	.	Bell
8	08	10	00001000	.	3%	.	BS - Backspace
9	09	11	00001001	.	.	.	HT - Horizontal tab
10	0A	12	00001010	.	4%	.	LF - Line feed
11	0B	13	00001011	.	.	.	VT - Vertical tab
12	0C	14	00001100	.	.	.	FF - Form feed
13	0D	15	00001101	.	5%	.	CR - Carriage return
14	0E	16	00001110	.	.	.	SO - shift out
15	0F	17	00001111	.	6%	.	SI - Shift in
16	10	20	00010000	.	.	.	DLE - Data link escape
17	11	21	00010001	.	.	.	DC1 - Device control 1, X-on
18	12	22	00010010	.	7%	.	DC2 - Device control 2
19	13	23	00010011	!!	.	.	DC3 - Device control 3
20	14	24	00010100	¶	8%	.	DC4 Device control 4
21	15	25	00010101	§	.	.	NAK Negative acknowledgment
22	16	26	00010110	.	.	.	SYN - Synchronous idle
23	17	27	00010111	.	9%	.	ETB - End of transmission block
24	18	30	00011000	.	.	.	CAN - Cancel
25	19	31	00011001	↓	10%	.	EM - End of medium
26	1A	32	00011010	→	.	.	SUB - Substitute; End of file
27	1B	33	00011011	←	.	.	ESC - Escape
28	1C	34	00011100	.	11%	.	FS - File separator
29	1D	35	00011101	↔	.	.	GS - Group separator
30	1E	36	00011110	.	.	.	RS - Record separator
31	1F	37	00011111	.	.	.	US - Unit separator
32	20	40	00100000	.	12.5%	.	Space
33	21	41	00100001	!	13%	.	Exclamation point (mark)
34	22	42	00100010	"	.	"	Quotation mark
35	23	43	00100011	#	.	.	Number sign
36	24	44	00100100	\$.	.	Dollar sign
37	25	45	00100101	%	.	.	Percent sign
38	26	46	00100110	&	15%	&	Ampersand
39	27	47	00100111	'	.	.	Apostrophe
40	28	50	00101000	(.	.	Left parenthesis
41	29	51	00101001)	16%	.	Right parenthesis
42	2A	52	00101010	*	.	.	Asterisk
43	2B	53	00101011	+	17%	.	Plus sign
44	2C	54	00101100	,	.	.	Comma
45	2D	55	00101101	-	17.5%	.	Minus sign
46	2E	56	00101110	.	18%	.	Period (full stop)
47	2F	57	00101111	/	.	.	Forward slash (virgule; solidus)
48	30	60	00110000	0	19%	.	Digit Zero
49	31	61	00110001	1	.	.	Digit One
50	32	62	00110010	2	.	.	Digit Two
51	33	63	00110011	3	20%	.	Digit Three

52	34	64	00110100	4	.	.	Digit Four
53	35	65	00110101	5	.	.	Digit Five
54	36	66	00110110	6	.	.	Digit Six
55	37	67	00110111	7	.	.	Digit Seven
56	38	70	00111000	8	22%	.	Digit Eight
57	39	71	00111001	9	.	.	Digit Nine
58	3A	72	00111010	:	.	.	Colon
59	3B	73	00111011	;	.	.	Semicolon
60	3C	74	00111100	<	.	<	Less than sign (left angle bracket)
61	3D	75	00111101	=	24%	.	Equal sign
62	3E	76	00111110	>	.	>	Greater than sign (right angle bracket)
63	3F	77	00111111	?	.	.	Question mark
64	40	100	01000000	@	25%	.	At sign (commercial at)
65	41	101	01000001	A	.	.	Latin capital letter A
66	42	102	01000010	B	.	.	Latin capital letter B
67	43	103	01000011	C	.	.	Latin capital letter C
68	44	104	01000100	D	.	.	Latin capital letter D
69	45	105	01000101	E	.	.	Latin capital letter E
70	46	106	01000110	F	27.5%	.	Latin capital letter F
71	47	107	01000111	G	.	.	Latin capital letter G
72	48	110	01001000	H	.	.	Latin capital letter H
73	49	111	01001001	I	.	.	Latin capital letter I
74	4A	112	01001010	J	.	.	Latin capital letter J
75	4B	113	01001011	K	.	.	Latin capital letter K
76	4C	114	01001100	L	.	.	Latin capital letter L
77	4D	115	01001101	M	30%	.	Latin capital letter M
78	4E	116	01001110	N	.	.	Latin capital letter N
79	4F	117	01001111	O	.	.	Latin capital letter O
80	50	120	01010000	P	.	.	Latin capital letter P
81	51	121	01010001	Q	.	.	Latin capital letter Q
82	52	122	01010010	R	.	.	Latin capital letter R
83	53	123	01010011	S	32.5%	.	Latin capital letter S
84	54	124	01010100	T	.	.	Latin capital letter T
85	55	125	01010101	U	33.3%	.	Latin capital letter U
86	56	126	01010110	V	.	.	Latin capital letter V
87	57	127	01010111	W	.	.	Latin capital letter W
88	58	130	01011000	X	.	.	Latin capital letter X
89	59	131	01011001	Y	35%	.	Latin capital letter Y
90	5A	132	01011010	Z	.	.	Latin capital letter Z
91	5B	133	01011011	[.	.	Left square bracket
92	5C	134	01011100	\	.	.	Backslash (reverse solidus)
93	5D	135	01011101]	.	.	Right square bracket
94	5E	136	01011110	^	.	.	Circumflex accent (caret)
95	5F	137	01011111	_	.	.	Underscore (horizontal bar; low line)
96	60	140	01100000	ˆ	37.5%	.	Grave accent (acute accent)
97	61	141	01100001	a	.	.	Latin small letter A
98	62	142	01100010	b	.	.	Latin small letter B
99	63	143	01100011	c	.	.	Latin small letter C
100	64	144	01100100	d	.	.	Latin small letter D
101	65	145	01100101	e	.	.	Latin small letter E
102	66	146	01100110	f	40%	.	Latin small letter F
103	67	147	01100111	g	.	.	Latin small letter G
104	68	150	01101000	h	.	.	Latin small letter H
105	69	151	01101001	i	.	.	Latin small letter I
106	6A	152	01101010	j	.	.	Latin small letter J

107	6B	153	01101011	k	.	.	Latin small letter K
108	6C	154	01101100	l	42.5%	.	Latin small letter L
109	6D	155	01101101	m	.	.	Latin small letter M
110	6E	156	01101110	n	.	.	Latin small letter N
111	6F	157	01101111	o	.	.	Latin small letter O
112	70	160	01110000	p	.	.	Latin small letter P
113	71	161	01110001	q	.	.	Latin small letter Q
114	72	162	01110010	r	.	.	Latin small letter R
115	73	163	01110011	s	45%	.	Latin small letter S
116	74	164	01110100	t	.	.	Latin small letter T
117	75	165	01110101	u	.	.	Latin small letter U
118	76	166	01110110	v	.	.	Latin small letter V
119	77	167	01110111	w	.	.	Latin small letter W
120	78	170	01111000	x	.	.	Latin small letter X
121	79	171	01111001	y	47.5%	.	Latin small letter Y
122	7A	172	01111010	z	.	.	Latin small letter Z
123	7B	173	01111011	{	.	.	Left curly brace (left curly bracket)
124	7C	174	01111100		.	.	Vertical bar (OR symbol; vertical line)
125	7D	175	01111101	}	.	.	Right curly brace (right curly bracket)
126	7E	176	01111110	~	.	.	Tilde
127	7F	177	01111111	.	.	.	Delete
128	80	200	10000000	€	50%	€	€ Euro currency symbol
129	81	201	10000001	□	.	.	Not used
130	82	202	10000010	,	.	.	Baseline single quote
131	83	203	10000011	<i>f</i>	.	ƒ	Latin small hooked f; florin
132	84	204	10000100	”	.	.	Baseline double quote
133	85	205	10000101	…	Ellipsis
134	86	206	10000110	†	52.5%	†	Single dagger
135	87	207	10000111	‡	.	‡	Double dagger
136	88	210	10001000	^	.	.	Accent circumflex (caret); Euro symbol in
Codepage 1251							
137	89	211	10001001	‰	.	‰	Per mille
138	8A	212	10001010	Š	.	Š	Latin capital S with caron (hacek)
139	8B	213	10001011	<	.	‘	Single left angle quote (single guillemet)
140	8C	214	10001100	Œ	55%	Œ	Latin capital OE ligature
141	8D	215	10001101	□	.	.	Not used
142	8E	216	10001110	Ž	.	.	Not used
143	8F	217	10001111	□	.	.	Not used
144	90	220	10010000	□	.	.	Not used
145	91	221	10010001	‘	.	‘	Opening single quote
146	92	222	10010010	’	.	’	Closing single quote
147	93	223	10010011	“	.	“	Opening double quote
148	94	224	10010100	”	.	”	Closing double quote
149	95	225	10010101	•	.	•	Bullet
150	96	226	10010110	–	.	–	En-dash
151	97	227	10010111	—	.	—	Em-dash
152	98	230	10011000	˜	.	‾	Over-score (over line); tilde
153	99	231	10011001	™	60%	™	Trademark
154	9A	232	10011010	š	.	š	Latin small S with caron (hacek)
155	9B	233	10011011	>	.	›	Single right angle quote (single quillemet)
156	9C	234	10011100	œ	.	œ	Latin small OE ligature
157	9D	235	10011101	□	.	.	Not used
158	9E	236	10011110	ž	.	.	Not used
159	9F	237	10011111	ÿ	62.5%	Ÿ	Latin capital Y, diæresis/umlaut
160	A0	240	10100000	.	.	 	Non-breaking space

161	A1	241	10100001	;	.	¡	Inverted exclamation mark
162	A2	242	10100010	¢	.	¢	Cent symbol
163	A3	243	10100011	£	.	£	Pound Sterling (pound sign)
164	A4	244	10100100	¤	.	¤t;	International Currency (currency sign)
165	A5	245	10100101	¥	.	¥	Japanese Yen (yen sign)
166	A6	246	10100110		65%	¦	Split (broken bar)
167	A7	247	10100111	§	.	§	Section sign
168	A8	250	10101000	¨	.	¨	Umlaut (diaeresis)
169	A9	251	10101001	©	.	©	Copyright sign
170	AA	252	10101010	^a	66.6%	ª	Feminine ordinal indicator
171	AB	253	10101011	«	.	«	Left Guillemet (chevron; left angle quote)
172	AC	254	10101100	¬	.	¬	Not sign
173	AD	255	10101101	–	.	­	Soft hyphen
174	AE	256	10101110	®	.	®	Registered trademark
175	AF	257	10101111	¯	.	¯	Macron (over-score; vinculum)
176	B0	260	10110000	°	.	°	Degree sign
177	B1	261	10110001	±	.	±	Plus-Minus sign
178	B2	262	10110010	²	70%	²	Two Superscript
179	B3	263	10110011	³	.	³	Three Superscript
180	B4	264	10110100	´	.	´	Acute accent
181	B5	265	10110101	µ	.	µ	Micro sign
182	B6	266	10110110	¶	.	¶	Paragraph (Pilcrow sign)
183	B7	267	10110111	·	.	·	Middle dot
184	B8	270	10111000	¸	.	¸	Cedilla
185	B9	271	10111001	ⁱ	.	¹	Superscript one
186	BA	272	10111010	º	.	º	Masculine ordinal indicator
187	BB	273	10111011	»	.	»	Right Guillemet (chevron, right angle quote)
188	BC	274	10111100	¼	.	¼	One-fourth
189	BD	275	10111101	½	.	½	One-half
190	BE	276	10111110	¾	.	¾	Three-fourths
191	BF	277	10111111	¿	75%	¿	Inverted question mark
192	C0	300	11000000	À	.	À	Latin capital A, grave accent
193	C1	301	11000001	Á	.	Á	Latin capital A, acute
194	C2	302	11000010	Â	.	Â	Latin capital A, circumflex
195	C3	303	11000011	Ã	.	Ã	Latin capital A, tilde
196	C4	304	11000100	Ä	.	Ä	Latin capital A, diæresis/umlaut
197	C5	305	11000101	Å	.	Å	Latin capital A, ring
198	C6	306	11000110	Æ	.	Æ	Latin capital AE ligature
199	C7	307	11000111	Ç	.	Ç	Latin capital C, cedilla
200	C8	310	11001000	È	.	È	Latin capital E, grave accent
201	C9	311	11001001	É	.	É	Latin capital E, acute accent
202	CA	312	11001010	Ê	.	Ê	Latin capital E, circumflex
203	CB	313	11001011	Ë	.	Ë	Latin capital E, diæresis/umlaut
204	CC	314	11001100	Ì	80%	Ì	Latin capital I, grave accent
205	CD	315	11001101	Í	.	Í	Latin capital I, acute accent
206	CE	316	11001110	Î	.	Î	Latin capital I, circumflex
207	CF	317	11001111	Ï	.	Ï	Latin capital I, diæresis/umlaut
208	D0	320	11010000	Ð	.	Ð	Latin capital Eth, Icelandic
209	D1	321	11010001	Ñ	.	Ñ	Latin capital N, tilde
210	D2	322	11010010	Ò	.	Ò	Latin capital O, grave accent
211	D3	323	11010011	Ó	.	Ó	Latin capital O, acute accent
212	D4	324	11010100	Ô	.	Ô	Latin capital O, circumflex
213	D5	325	11010101	Õ	.	Õ	Latin capital O, tilde
214	D6	326	11010110	Ö	.	Ö	Latin capital O, diæresis/umlaut
215	D7	327	11010111	×	.	×	Multiplication sign

216	D8	330	11011000	Ø	.	Ø	Latin capital O, slash
217	D9	331	11011001	Ù	85%	Ù	Latin capital U, grave accent
218	DA	332	11011010	Ú	.	Ú	Latin capital U, acute accent
219	DB	333	11011011	Û	.	Û	Latin capital U, circumflex
220	DC	334	11011100	Ü	.	Ü	Latin capital U, diæresis/umlaut
221	DD	335	11011101	Ý	.	Ý	Latin capital Y, acute accent
222	DE	336	11011110	Þ	.	Þ	Latin capital thorn, Icelandic
223	DF	337	11011111	ß	87.5%	ß	Latin small sharp s, German sz
224	E0	340	11100000	à	.	à	Latin small A, grave accent
225	E1	341	11100001	á	.	á	Latin small A, acute accent
226	E2	342	11100010	â	.	â	Latin small A, circumflex
227	E3	343	11100011	ã	.	ã	Latin small A, tilde
228	E4	344	11100100	ä	.	ä	Latin small A, diæresis/umlaut
229	E5	345	11100101	å	90%	å	Latin small A, ring
230	E6	346	11100110	æ	.	æ	Latin small AE ligature
231	E7	347	11100111	ç	.	ç	Latin small C, cedilla
232	E8	350	11101000	è	.	è	Latin small E, grave accent
233	E9	351	11101001	é	.	é	Latin small E, acute accent
234	EA	352	11101010	ê	.	ê	Latin small E, circumflex
235	EB	353	11101011	ë	.	ë	Latin small E, diæresis/umlaut
236	EC	354	11101100	ì	.	ì	Latin small I, grave accent
237	ED	355	11101101	í	.	í	Latin small I, acute accent
238	EE	356	11101110	î	.	î	Latin small I, circumflex
239	EF	357	11101111	ï	.	ï	Latin small I, diæresis/umlaut
240	F0	360	11110000	ð	.	ð	Latin small eth, Icelandic
241	F1	361	11110001	ñ	.	ñ	Latin small N, tilde
242	F2	362	11110010	ò	95%	ò	Latin small O, grave accent
243	F3	363	11110011	ó	.	ó	Latin small O, acute accent
244	F4	364	11110100	ô	.	ô	Latin small O, circumflex
245	F5	365	11110101	õ	.	õ	Latin small O, tilde
246	F6	366	11110110	ö	.	ö	Latin small O, diæresis/umlaut
247	F7	367	11110111	÷	.	÷	Division sign
248	F8	370	11111000	ø	.	ø	Latin small O, slash
249	F9	371	11111001	ù	.	ugrave;	Latin small U, grave accent
250	FA	372	11111010	ú	.	ú	Latin small U, acute accent
251	FB	373	11111011	û	.	û	Latin small U, circumflex
252	FC	374	11111100	ü	.	ü	Latin small U, diæresis/umlaut
253	FD	375	11111101	ý	.	ý	Latin small Y, acute accent
254	FE	376	11111110	þ	.	þ	Latin small thorn, Icelandic
255	FF	377	11111111	ÿ	100%	ÿ	Latin small Y, diæresis/umlaut



http://ourworld.compuserve.com/homepages/r_harvey



Character Sets

Dec	Hex	ANSI	CP437	CP850	Symbol	Wingdings
32	20					
33	21	!	!	!	!	!
34	22	"	"	"	∇	"
35	23	#	#	#	#	#
36	24	\$	\$	\$	∃	\$
37	25	%	%	%	%	%
38	26	&	&	&	&	&
39	27	'	'	'	∅	'
40	28	(((((
41	29)))))
42	2A	*	*	*	*	*
43	2B	+	+	+	+	+
44	2C	,	,	,	,	,
45	2D	-	-	-	-	-
46	2E
47	2F	/	/	/	/	/
48	30	0	0	0	0	0
49	31	1	1	1	1	1
50	32	2	2	2	2	2
51	33	3	3	3	3	3
52	34	4	4	4	4	4
53	35	5	5	5	5	5
54	36	6	6	6	6	6
55	37	7	7	7	7	7
56	38	8	8	8	8	8
57	39	9	9	9	9	9
58	3A	:	:	:	:	:
59	3B	;	;	;	;	;
60	3C	<	<	<	<	<
61	3D	=	=	=	=	=
62	3E	>	>	>	>	>
63	3F	?	?	?	?	?
64	40	@	@	@	≅	@
65	41	A	A	A	A	A
66	42	B	B	B	B	B
67	43	C	C	C	X	C
68	44	D	D	D	Δ	D
69	45	E	E	E	E	E
70	46	F	F	F	Φ	F
71	47	G	G	G	Γ	G
72	48	H	H	H	H	H

73	49	I	I	I	I	I
74	4A	J	J	J	ϑ	J
75	4B	K	K	K	K	K
76	4C	L	L	L	Λ	L
77	4D	M	M	M	M	M
78	4E	N	N	N	N	N
79	4F	O	O	O	O	O
80	50	P	P	P	Π	P
81	51	Q	Q	Q	Θ	Q
82	52	R	R	R	P	R
83	53	S	S	S	Σ	S
84	54	T	T	T	T	T
85	55	U	U	U	Υ	U
86	56	V	V	V	ς	V
87	57	W	W	W	Ω	W
88	58	X	X	X	Ξ	X
89	59	Y	Y	Y	Ψ	Y
90	5A	Z	Z	Z	Z	Z
91	5B	[[[[[
92	5C	\	\	\	∴	\
93	5D]]]]]
94	5E	^	^	^	⊥	^
95	5F	¯	¯	¯	=	¯
96	60	·	·	·	=	·
97	61	a	a	a	α	a
98	62	b	b	b	β	b
99	63	c	c	c	χ	c
100	64	d	d	d	δ	d
101	65	e	e	e	ε	e
102	66	f	f	f	φ	f
103	67	g	g	g	γ	g
104	68	h	h	h	η	h
105	69	i	i	i	ι	i
106	6A	j	j	j	φ	j
107	6B	k	k	k	κ	k
108	6C	l	l	l	λ	l
109	6D	m	m	m	μ	m
110	6E	n	n	n	ν	n
111	6F	o	o	o	ο	o
112	70	p	p	p	π	p
113	71	q	q	q	θ	q
114	72	r	r	r	ρ	r
115	73	s	s	s	σ	s
116	74	t	t	t	τ	t

117	75	u	u	u	υ	U
118	76	v	v	v	ϕ	V
119	77	w	w	w	ω	W
120	78	x	x	x	ξ	X
121	79	y	y	y	ψ	Y
122	7A	z	z	z	ζ	Z
123	7B	{	{	{	{	{
124	7C					
125	7D	}	}	}	}	}
126	7E	~	~	~	~	~
127	7F	□	Δ	Δ	•	□
128	80	€	Ç	Ç	€	€
129	81	□	ü	ü	□	□
130	82	,	é	é	,	,
131	83	f	â	â	f	f
132	84	”	ä	ä	”	”
133	85	...	à	à
134	86	†	â	â	†	†
135	87	‡	ç	ç	‡	‡
136	88	^	ê	ê	^	^
137	89	‰	ë	ë	‰	‰
138	8A	Š	è	è	Š	Š
139	8B	<	ï	ï	<	<
140	8C	Œ	î	î	Œ	Œ
141	8D	□	ì	ì	□	□
142	8E	Ž	Ä	Ä	Ž	Ž
143	8F	□	Å	Å	□	□
144	90	□	É	É	□	□
145	91	‘	æ	æ	‘	‘
146	92	’	Æ	Æ	’	’
147	93	“	ô	ô	“	“
148	94	”	ö	ö	”	”
149	95	•	ò	ò	•	•
150	96	—	û	û	—	—
151	97	—	ù	ù	—	—
152	98	~	ÿ	ÿ	~	~
153	99	™	Ö	Ö	™	™
154	9A	š	Ü	Ü	š	Š
155	9B	>	ø	ø	>	>
156	9C	œ	£	£	œ	œ
157	9D	□	¥	Ø	□	□
158	9E	ž	Pt	x	ž	Ž
159	9F	ÿ	f	f	ÿ	ÿ
160	A0		á	á	€	

161	A1	ı	ı	ı	Y	ı
162	A2	¢	ó	ó	'	ı
163	A3	£	ú	ú	≤	£
164	A4	¤	ñ	ñ	/	¤
165	A5	¥	Ñ	Ñ	∞	¥
166	A6		a	a	f	
167	A7	§	o	o	♣	§
168	A8	¨	ı	ı	♦	¨
169	A9	©		®	♥	©
170	AA	a			♠	a
171	AB	«	½	½	↔	«
172	AC	¬	¼	¼	←	¬
173	AD		ı	ı		
174	AE	®	«	«	→	®
175	AF	—	»	»	↓	—
176	B0	o			o	o
177	B1	±			±	±
178	B2	²			"	²
179	B3	³			≥	³
180	B4	'			×	'
181	B5	μ		Á	∞	μ
182	B6	¶		Â	∂	¶
183	B7	·		À	•	·
184	B8	,		©	÷	,
185	B9	¹			≠	¹
186	BA	º			≡	º
187	BB	»			≈	»
188	BC	¼			...	¼
189	BD	½		¢		½
190	BE	¾		¥	—	¾
191	BF	ı			⊥	ı
192	C0	À			ℵ	À
193	C1	Á			ℶ	Á
194	C2	Â			ℷ	Â
195	C3	Ã			∅	Ã
196	C4	Ä			⊗	Ä
197	C5	Å			⊕	Å
198	C6	Æ		ã	∅	Æ
199	C7	Ç		Ã	∩	Ç
200	C8	È			∪	È
201	C9	É			⊃	É
202	CA	Ê			⊇	Ê
203	CB	Ë			⊈	Ë
204	CC	Ì			⊂	Ì

205	CD	Í			⊆	Í
206	CE	Î			∈	Î
207	CF	Ï			∉	Ï
208	D0	Ð	¤	ð	∠	Ð
209	D1	Ñ	¤	Ð	∇	Ñ
210	D2	Ò		Ê	®	Ò
211	D3	Ó		È	©	Ó
212	D4	Ô		È	™	Ô
213	D5	Õ		´	∏	Õ
214	D6	Ö		í	√	Ö
215	D7	×		î	·	×
216	D8	Ø		ï	¬	Ø
217	D9	Ù			^	Ù
218	DA	Ú			∨	Ú
219	DB	Û			↔	Û
220	DC	Ü			⇐	Ü
221	DD	Ý		ì	⇑	Ý
222	DE	Þ			⇒	Þ
223	DF	ß		ó	⇓	ß
224	E0	à	α	β	◇	à
225	E1	á	β	β	<	á
226	E2	â	Γ	Ô	®	â
227	E3	ã	Π	Ò	©	ã
228	E4	ä	Σ	õ	™	ä
229	E5	å	σ	Õ	Σ	å
230	E6	æ	μ	μ		æ
231	E7	ç		þ		ç
232	E8	è	Φ	þ		è
233	E9	é	Θ	ú		é
234	EA	ê	Ω	û		ê
235	EB	ë	δ	ù		ë
236	EC	ì	∞	ý		ì
237	ED	í	∅	ý		í
238	EE	î	ε	–		î
239	EF	ï	∩	´		ï
240	F0	ð	≡	-	•	ð
241	F1	ñ	±	±	>	ñ
242	F2	ò	≥	=	∫	ò
243	F3	ó	≤	¼	∫	ó
244	F4	ô	∩	¶		ô
245	F5	õ	∪	§		õ
246	F6	ö	÷	÷		ö
247	F7	÷	≈	◊		÷
248	F8	ø	°	◊		ø

249	F9	ù	•	..	}	ù
250	FA	ú	·	·		ú
251	FB	û	√	1	}	û
252	FC	ü		3	}	ü
253	FD	ý	2	2	}	ý
254	FE	þ			}	þ
255	FF	ÿ			•	ÿ

You can enter these characters from the keyboard. Select the correct font in your application, then hold down the **ALT** key, then use the number pad: press and release 0 (zero), followed by the two- or three-digit decimal code for the character (in the Dec column in this table). Then release the **ALT** key.

Character codes highlighted in color may not be supported by word processors. Windows 3.x help cannot display the Wingdings font in help files. CP437 is Codepage 437 (United States), CP850 is Codepage 850 (Multilingual Latin 1); both are simulated using ANSI characters and pictures. Most fonts do not support characters 0-31.





Units

A B C D E F G H I J K L M N O P Q R S T U V W X Y

Absolute zero	-273 degrees Centigrade -459.4 degrees Fahrenheit
Acre	43,560 square feet
Angstrom (A)	0.00000004 inch 0.0001 micrometer exactly 0.000001 millimeter exactly 0.1 nanometer exactly 120 fathoms exactly
Are[s]	100 sq. meters 119.60 square yards
Astronomical Unit (AU)	Mean distance from Earth to Sun 93 million miles
<hr/>	
Bale	500 lb. (approximately)
Barrel	31.5 gallons 7,276.5 cubic inches
Barrel	(petroleum) 42 gallons 9,702 cubic inches
Billion	1,000,000,000 1E9 British: 1,000,000,000,000 (1E12)
Bit (b)	Binary digit
Board foot	144 cubic inches (12x12x1 inch)
Bolt	(cloth) 40 yards
Bushel	(dry) 4 pecks 32 dry quarts 2150.42 cubic inches 35.2383 liters 60 pounds of wheat 56 pounds of rye 56 pounds of corn 48 pounds of barley 32 pounds of oats
Byte (B)	8 bits (hardware-dependent; may be 6, 7 or 9 on some older computers) signed range: -128 to 127 unsigned range: 0 to 255
<hr/>	
Cable's length	720 ft. exactly 219 meters
Carat	200 milligrams 3.086 grains (troy)
Centigrade	(temperature) $^{\circ}\text{Centigrade} = (5 / 9) \times (^{\circ}\text{Fahrenheit} - 32)$

Centigram	0.01 gram exactly 0.154 grain
Centiliter	0.01 liter exactly 0.61 cubic inch 0.0176 UK pint 0.0182 dry US pint 0.021 liquid US pint
Centimeter (cm)	0.3937 inch 0.01 meter exactly
Chain (ch)	(Gunter's or surveyor) 66 feet exactly 20.1168 meters
Chain	(Engineer's) 100 feet 30.48 meters exactly
Circle	(angular) 360 degrees 4 quadrants 21,600 minutes 1,296,000 seconds
Cubic Centimeter	0.000001 cubic meter 0.061 cubic inch
Cubic Decimeter	0.001 cubic meter 61.023 cubic inches
Cubic Inch	16.3871 cubic centimeters
Cubic foot	1,728 cubic inches 28316.8466 cubic centimeters
Cubic Meter	1.307 cubic yards 35.3147 cubic feet 61023.7441 cubic inches
Cubic yard	27 cubic feet 764554.8580 cubic centimeters
Cubit	(Biblical) 21.8 inches 38.2 cm
Currency	8-bytes Range: -922337203685477.5808 to 922337203685477.5807
Decagram	10 grams 0.353 oz.
Decigram	0.1 gram 1.543 grains
Decimeter (dm)	3.937 inches
Decaliter	10 liters exactly 0.35 cubic foot 1.14 pecks
Decameter (dam)	32.808 square feet 1 square hectometer 10 square meters exactly 2.471 acres

Decigram	0.1 gram exactly 1.543 grains
Deciliter	0.1 liter exactly 6.1 cubic inches 0.176 UK pint 0.182 US dry pint 0.21 US liquid pint
Decimeter	0.1 meter exactly 3.937 inches
Decillion	1,000,000,000,000,000,000,000,000,000,000,000 1E33
Degree	(Geography) 364,566.929 feet 69,047 miles (avg.) 111.123 kilometers (avg.)
Degree of latitude	68.708 miles at the equator 69.403 miles at the poles
Degree of longitude	69,171 miles at equator
Double precision	64-bits, 8 bytes 5.0*10E-324 to 1.7*10E308 negative: -1.79769313486232E308 to -4.94065645841247E-324 positive: 4.94065645841247E-324 to 1.79769313486232E308
Dozen	12
Dram	(Avoirdupois) 27.34375 grains

e

	2.7182818284590452353602874713526624977572470936999595749669676 2772
Earth	(planet) 3963 miles diameter 91.4-94.6 million miles from Sun 365.25 day year
Exa- (E)	10 ¹⁸
Extended precision	80-bits, 10 bytes 3.4*10E-4932 to 1.1*10e4932
Fahrenheit	(temperature) ° Fahrenheit = (9 / 5 x ° Centigrade) + 32
Fathom	6 ft. exactly 1.8288 meters exactly
Firkin	(computer slang) 0.25 barrel 10.5 gallons
Foot (ft)	0.3048 meters exactly 12 in. exactly
Fortnight	14 days 2 weeks
Furlong	660 feet 220 yards

	1/8 mile
Gallon	231 cubic inches 3.7854 liters
Giga- (G)	10 ⁹
Gigabit (Gb)	1,073,741,824 bits 134,217,728 bytes
Gigabyte (GB)	1,024 megabytes 1,073,741,824 bytes (10 ⁹)
Gill	(liquid) 4 fluid oz. 7.219 cubic inches 0.1183 liter
Grain	(Avoirdupois) 0.0648 gram
Gram	0.035 oz. 1 cubic centimeter of water at 4 degrees Centigrade
Gross	12 dozen 144
Hand	(Horse height measurement, from ground to shoulders) 4 inches
Hectare	10,000 square meters 100 are[s] 2.471 acres
Hectogram	100 grams exactly 3.527 oz.
Hectoliter	100 liters exactly 3.53 cubic feet 2.84 bushels
Hectometer	100 meters exactly 328.08 feet 1 square kilometer 0.386 square mile
Hogshead	2 barrels
Horsepower	746 watts
Hundredweight	100 pounds
Inch (in)	2.54 centimeters exactly
Integer (short)	16-bits, 2 bytes signed range: -32768 to 32,767 unsigned range: 0 to 65,535
Integer (long)	32-bits, 4 bytes signed range: -2147,483,648 to 2,147,483,647 unsigned range: 0 to 4,294,967,295
Jupiter	(planet) 44419 miles diameter 460.6-507 million miles from Sun 4331.8 day year
Kelvin	(temperature) ° Kelvin = ° Centigrade + 273.16

Kilo- (k)	10 ³
Kilobit (Kb)	1024 bits 128 bytes
Kilobyte (KB)	1024 bytes
Kilogram	1,000 grams exactly 2.20462 pounds
Kiloliter	1,000 liters exactly 1.31 cubic yards
Kilometer (km)	0.621 mile 3,281.5 feet 1,000 meters exactly
<hr/>	
League (land)	3 survey miles exactly 4.828 kilometers
Light-year	5,878,000,000,000 mi. (approximately)
Link	(Gunter or surveying) 7.92 in. exactly 0.201 meter
Link	(Engineering) 1 foot 0.305 meter
Liter	61.02 cubic inch 0.908 quart 10 deciliters 1.76 UK pints 1.82 dry US pint 2.1 liquid US pint
Long integer	32-bits, 4 bytes signed range: -2,147,483,648 to 2,147,483,647 unsigned range: 0 to 4,294,967,295
<hr/>	
Magnum	(liquid) 2/5 gallon (approximately)
Mars	(planet) 2108.5 miles diameter 128.5-155 million miles from Sun 687 day year
Mega- (M)	10 ⁶
Megabit (Mb)	1,024 bits 131,072 bytes
Megabyte (MB)	1,024 kilobytes 1,048,576 bytes (10 ⁶)
Mercury	(planet) 1515 miles diameter 28.6-43.4 million miles from Sun 88 day year
Meter (m)	39.37 inches 1.094 yards Length of the path light travels in a vacuum in 1/299792458 second.
Metric ton	1,000,000 grams exactly 1.102 short ton

Micrometer (mm)	μ (Greek letter mu) 0.001 millimeter exactly 0.00003937 inch
Micro-fortnight	(computer slang) 1/1000000 fortnight 1.2096 second.
Micro-year	(computer slang) 31.5576 seconds 0.526 minute
Mil	0.001 inch exactly 0.0254 millimeter exactly
Mile (MI)	(Statute or land) 1760 yards exactly 5,280 feet exactly 1.609.3440 kilometers
Milligram	0.001 gram exactly 0.015 grain
Milliliter (ml)	0.001 liter exactly 0.0610237 cubic inch 0.27 fluid dram 0.00176 UK pint 0.00182 dry US pint .0021 liquid US pint
Millimeter (mm)	0.03937 inch 0.001 meter exactly
Million	1,000,000 1E6
Minim	(liquid) 0.0038 cubic inch 0.0616 milliliter
Minute	(angular) 60 seconds 1/60 degree 1/5400 quadrant or right angle 1/21600 circle
Moon	1080 miles diameter
Nanometer (nm)	0.001 micrometer exactly 0.0000003937 inch
Nanosecond	1 billionth second 0.00000001 second
Nano-year	(computer slang) .0315576 seconds
Nautical Mile	6076.11549 feet 1.852 kilometers exactly 1.150779 survey miles
Neptune	(planet) miles diameter 2760.4-2821.7 million miles from Sun 60188.3 day year

Nonillion	1,000,000,000,000,000,000,000,000,000,000 1E30
Octillion	1,000,000,000,000,000,000,000,000,000 1E27
Ounce	(Avoirdupois) 16 drams
Ounce	(Fluid) 0.0078 gallon 0.0296 liter
Pace	30 inches 2.5 feet
Parsec	3.26 light-years 19.200,000,000,000 miles (approximately)
Palm	3 inches
Peck	16 pints 0.25 bushel 537.605 cubic inches 8.809 liters 1 British dry quart
Peta- (P)	10 ¹⁵
Pi	3.1415926535897932384626433832795028841971693993751058209749445 923
Pica	(typography) 12 points
Pint	(liquid) 28.875 cubic inches 0.473176 liter 0.0625 peck
Pluto	(planet) 714 miles diameter 2756.4-4551.4 million miles from Sun 90466.8 day year
Point (pt)	(Typography) 0.013837 in. exactly 1/72 in. (approximately) 1/12 pica 0.351 millimeter
Quadrant	(angular) 1/4 circle 90 degrees 5,400 minutes 324,000 seconds
Quad integer	64-bits, 8 bytes signed range: -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 unsigned range: 0 to 18,446,744,073,709,551,615
Quadrillion	1,000,000,000,000,000
Quart (qt)	2 pints

	57.7500 cubic inches 0.946353 liter
Quintal	100,000 grams 220.46 pounds (avoirdupois)
Quintillion	1,000,000,000,000,000,000
Rod (rd)	(Pole, or perch) 16 1/2 feet exactly 5.029 meters
<hr/>	
Saturn	(planet) 37448 miles diameter 8338.4-937.5 million miles from Sun 10760 day year
Second	(angular) 1/60 minute 1/3600 degree 1/324000 quadrant 1/296000 circle
Septillion	1,000,000,000,000,000,000,000,000 1E24
Sextillion	1,000,000,000,000,000,000,000 1E21
Short integer	16-bits, 2 bytes signed range: -32768 to 32,767 unsigned range: 0 to 65,535
Single precision	32-bits, 4 bytes 1.5*10E-45 to 3.4*10E38 negative: -3.402823E38 to -1.401298E-45 positive: 1.401298E-45 to 3.402823E38
Span	6 inches
Square Centimeter	0.0001 square meter 0.155 square inch
Square Foot	144 square inches
Square Kilometer	1,000,000 square meters 100 hectares 0.3861 square mile 247.1 acres
Square Meter	100 square centimeters 1.196 square yards
Square Mile	640 acres 3,097,600 square yards 27,878,400 square feet
Square Yard	9 square feet 1,296 square inches
Sun	432449 miles diameter
<hr/>	
Tera- (T)	10 ¹²
Thousand	1,000
Ton	2000 pounds
Tonne	(metric ton)

	1000 kilograms
	2204.62 pounds
Trillion	1,000,000,000,000
<hr/>	
Uranus	(planet) 15881 miles diameter 1669.3-1859.7 million miles from Sun 30684 day year
Venus	(planet) 3760 miles diameter 66.8-67.7 million miles from Sun 224.7 day year
Yard (yd)	36 inches 3 feet 0.9144 meter exactly
Yotta- (Y)	10^{24}
Zeta- (Z)	10^{21}





Fractions

Decimal	8th	16th	32nd	64th	10th	
0.015625	.	.	.	1/64	.	
0.03125	.	.	1/32	2/64	.	
0.046875	.	.	.	3/64	.	
0.0625	.	1/16	2/32	4/64	.	
0.078125	.	.	.	5/64	.	
0.09375	.	.	3/32	6/64	.	
0.10	1/10	
0.109375	.	.	.	7/64	.	
0.125	1/8	2/16	4/32	8/64	.	
0.140625	.	.	.	9/64	.	
0.15625	.	.	5/32	10/64	.	
0.171875	.	.	.	11/64	.	
0.1875	.	3/16	6/32	12/64	.	
0.20	2/10	1/5
0.203125	.	.	.	13/64	.	
0.21875	.	.	7/32	14/64	.	
0.234375	.	.	.	15/64	.	
0.25	2/8	4/16	8/32	16/64	.	
0.265625	.	.	.	17/64	.	
0.28125	.	.	9/32	18/64	.	
0.296875	.	.	.	19/64	.	
0.30	3/10	
0.3125	.	5/16	10/32	20/64	.	
0.328125	.	.	.	21/64	.	
0.34375	.	.	11/32	22/64	.	
0.359375	.	.	.	23/64	.	
0.375	3/8	6/16	12/32	24/64	.	
0.390625	.	.	.	25/64	.	
0.40	4/10	2/5
0.40625	.	.	13/32	26/64	.	
0.421875	.	.	.	27/64	.	
0.4375	.	7/16	14/32	28/64	.	
0.453125	.	.	.	29/64	.	
0.46875	.	.	15/32	30/64	.	
0.484375	.	.	.	31/64	.	
0.50	4/8	8/16	16/32	32/64	5/10	
0.515625	.	.	.	33/64	.	
0.53125	.	.	17/32	34/64	.	
0.546875	.	.	.	35/64	.	
0.5625	.	9/16	18/32	36/64	.	

0.578125	.	.	.	37/64	.	
0.59375	.	.	19/32	38/64	.	
0.60	6/10	3/5
0.609375	.	.	.	39/64	.	
0.625	5/8	10/16	20/32	40/64	.	
0.640625	.	.	.	41/64	.	
0.65625	.	.	21/32	42/64	.	
0.671875	.	.	.	43/64	.	
0.6875	.	11/16	22/32	44/64	.	
0.70	7/10	
0.703125	.	.	.	45/64	.	
0.71875	.	.	23/32	46/64	.	
0.734375	.	.	.	47/64	.	
0.75	6/8	12/16	24/32	48/64	.	
0.765625	.	.	.	49/64	.	
0.78125	.	.	25/32	50/64	.	
0.796875	.	.	.	51/64	.	
0.80	8/10	4/5
0.8125	.	13/16	26/32	52/64	.	
0.828125	.	.	.	53/64	.	
0.84375	.	.	27/32	54/64	.	
0.859375	.	.	.	55/64	.	
0.875	7/8	14/16	28/32	56/64	.	
0.890625	.	.	.	57/64	.	
0.90	9/10	
0.90625	.	.	29/32	58/64	.	
0.921875	.	.	.	59/64	.	
0.9375	.	15/16	30/32	60/64	.	
0.953125	.	.	.	61/64	.	
0.96875	.	.	31/32	62/64	.	
0.984375	.	.	.	63/64	.	
1.0	8/8	16/16	32/32	64/64	10/10	5/5





Roman Numerals

Roman	Decimal
I	1
II	2
III	3
IV	4
V	5
VI	6
VII	7
VIII	8
IX	9
X	10
XI	11
XII	12
XIII	13
XIV	14
XV	15
XVI	16
XVII	17
XVIII	18
XIX	19
XX	20
XXX	30
XL	40
L	50
LX	60
LXX	70
LXXX	80
XC	90
C	100
CL	150
CC	200
CCC	300
CD	400
D	500
DC	600
DCC	700
DCCC	800
CM	900
M	1,000
MCMXX	1,920
MCMXXX	1,930

MCMXL	1,940
MCML	1,950
MCMLX	1,960
MCMLXX	1,970
MCMLXXX	1,980
MCMXC	1,990
MM	2,000
	5,000
	10,000
	50,000
	100,000
	500,000
	1,000,000





Windows Colors

Named colors are pure. Other colors look correct in all color modes, with smooth 2-color dithering in 16-color VGA. The final three colors are pure in 256-color modes. For Web-safe colors, see [HTMLcat](#).





DOS Colors

I	R	G	B	Dec	Hex	Background	Foreground
0	0	0	0	0	0	Black	Black
0	0	0	1	1	1	Blue	Blue
0	0	1	0	2	2	Green	Green
0	0	1	1	3	3	Cyan	Cyan
0	1	0	0	4	4	Red	Red
0	1	0	1	5	5	Magenta	Magenta
0	1	1	0	6	6	Brown	Brown
0	1	1	1	7	7	White / lt. gray	White / lt. gray
1	0	0	0	8	8	Dark gray	Black blink
1	0	0	1	9	9	Light blue	Blue blink
1	0	1	0	10	A	Light green	Green blink
1	0	1	1	11	B	Light cyan	Cyan blink
1	1	0	0	12	C	Light red	Red blink
1	1	0	1	13	D	Light magenta	Magenta blink
1	1	1	0	14	E	Yellow	Brown blink
1	1	1	1	15	F	Bright white	White blink

I = Intensity bit, **R** = Red bit, **G** = Green bit, **B** = Blue bit



Cap-line | Cap-height

The top of a capital letter. Some symbols rise above the cap-height, which affects the point size of the font. The height of the font is the point size, plus spacing between lines.

Ascender

The part of a lowercase character that rises above the x-line. Characters with ascenders include b, d, f, h, k, l and t.

Arm

A horizontal stroke, such as the top bar in uppercase "T". Uppercase "E" has three arms.

Eye

The enclosed portion of the lowercase "e" character.

x-height | Mean Line

The height of a lowercase x character above the baseline. The relationship between the x-height and the top of the letter (cap-line) affects readability. At larger sizes, a low x-height is attractive. At small font sizes, a large x-height makes fonts more readable.

Stroke

A line drawn to form a font. We often refer to stroke thickness as the weight of the font.

x-line

Marks the x-height at the top of lowercase characters. The x-height is said to be at the top of the lowercase x character; some lowercase characters extend above this line.

Baseline

The horizontal line at the bottom of the font where the base of the text rests.

Counter

Enclosed segment of a character.

Bowl

The rounded segment of a character.

Loop | Tail

Descender portion of lowercase "g" character. The terminating stroke of uppercase "R" is often also called the Tail. The end of a stroke is often called the *terminal*.

Descender

The portion of a lowercase character that extends below the baseline.

Serif

Small strokes at the end of strokes on seriffed fonts. Fonts without serifs are called sans-serif. The end of a stroke is often called a Terminal.

Ear

A portion of lowercase "g" that extends above the baseline away from the character. Found in "g", but not "g".



Fonts and Pixels

Parts of a font

Font sizes, in points

DOS line drawing characters

Line weights, in pixels

On-screen pixels

Dimensions are for VGA with small fonts.





Screen Ruler

Measurements are screen-dependent. The operating system may scale these vector drawings to approximate true measurements. VGA resolution (small-fonts) is usually considered to be 96 pixels per inch; 8514 resolution (large fonts) is approximately 120 pixels per inch.





Resolution Converter

Inch	MM	Point	Pica	Pixels 72dpi	Pixels 96dpi	Pixels 120dpi	Pixels 300dpi
0.0138	0.3515	1.000	0.08	1	1	2	4
0.0277	0.7029	2.000	0.16	2	3	3	8
0.0394	1.0000	2.845	0.24	3	4	5	12
0.0415	1.0544	3.000	0.25	3	4	5	12
0.0553	1.4058	4.000	0.33	4	6	7	17
0.0692	1.7573	5.000	0.4	5	7	8	21
0.0830	2.1088	6.000	0.5	6	8	10	25
0.0969	2.4602	7.000	0.58	7	9	12	29
0.1107	2.8117	8.000	0.66	8	10	13	33
0.1245	3.1631	9.000	0.75	9	12	15	37
0.1250	3.1750	9.034	0.75	9	12	15	37
0.1384	3.5146	10.000	0.83	10	13	17	41
0.1522	3.8661	11.000	0.91	11	15	18	46
0.1660	4.2175	12.000	1	12	16	20	50
0.1937	4.9204	14.000	1.2	14	19	23	58
0.1969	5.0000	14.226	1.2	14	19	24	59
0.2000	5.0800	14.454	1.2	14	20	24	60
0.2214	5.6234	16.000	1.33	16	21	27	66
0.2491	6.3263	18.000	1.49	18	24	30	75
0.2500	6.3500	18.067	1.5	18	24	30	75
0.2767	7.0292	20.000	1.66	20	27	33	83
0.3044	7.7321	22.000	1.8	22	29	37	91
0.3321	8.4350	24.000	2	24	32	40	100
0.3333	8.4667	24.090	2	24	32	40	100
0.3874	9.8409	28.000	2.3	28	37	46	116
0.3937	10.0000	28.453	2.4	28	38	47	118
0.4000	10.1600	28.453	2.4	28	38	47	118
0.4151	10.5438	30.000	2.5	30	40	50	125
0.4428	11.2467	32.000	2.7	32	43	53	133
0.4981	12.6526	36.000	3	36	48	60	149
0.5000	12.7000	36.135	3	36	48	60	150
0.6642	16.8701	48.000	4	48	64	80	199
0.6666	16.9334	48.180	4	48	64	80	200
0.7500	19.0500	54.203	4.5	54	72	90	225
0.8000	20.3200	57.816	4.8	56	79	96	240
0.8333	21.1667	60.225	5	60	80	100	250
0.8856	22.4934	64.000	5.3	64	85	106	266
0.9963	25.3051	72.000	5.9	72	96	120	299
1.0000	25.4001	72.270	6	72	96	120	300
1.3284	33.7401	96.000	8	96	128	159	399
1.5000	38.1001	108.405	9	108	144	180	450

1.9925	50.6102	144.000	12	143	191	239	598
2.0000	50.8001	144.540	12	144	192	240	600
2.5000	63.5000	180.675	15	180	240	300	750
3.0000	76.2000	216.810	18	216	288	360	900
3.5000	88.9000	252.945	21	252	336	420	1,050
3.9370	100.0000	284.528	23.6	283	378	472	1,181
4.0000	101.6002	289.080	24	288	394	480	1,200

Pica = 1/6 inch (0.166667)

Point = 0.013837 inch

Millimeter = 0.03937 inch





Paper Sizes

Metric		Inches		Paper type
Width	Height	Width	Height	
.	.	8.50	11.00	A (American)
.	.	11.00	17.00	B
.	.	17.00	22.00	C
.	.	22.00	34.00	D
.	.	34.00	44.00	E
104.7	241.3	4.125	9.50	Com 10
190.5	266.7	7.25	10.50	Executive
.	.	14.875	11.00	Fanfold
215.90	330.20	8.50	13.00	Folio
.	.	8.50	12.00	German standard fanfold
.	.	17.00	11.00	Ledger
215.9	355.6	8.50	14.00	Legal
.	.	9.50	15.00	Legal extra
215.90	279.40	8.50	11.00	Letter
.	.	9.50	12.00	Letter extra
.	.	8.50	12.66	Letter plus
98.4	190.5	3.875	7.50	Monarch
215	275	.	.	Quarto
.	.	5.50	8.50	Statement
.	.	11.00	17.00	Tabloid
.	.	11.66	18.00	Tabloid extra
841	1189	.	.	A0
594	841	.	.	A1
420	594	.	.	A2
297	420	.	.	A3
322	445	.	.	A3 extra
210	297	.	.	A4
236	322	.	.	A4 extra
210	330	.	.	A4 plus
210	297	.	.	A4 small
148	210	.	.	A5
174	235	.	.	A5 extra
105	148	.	.	A6
74	105	.	.	A7
52	74	.	.	A8
37	52	.	.	A9
26	37	.	.	A10
18	26	.	.	A11
13	18	.	.	A12
99	210	.	.	1/3 A4
74	210	.	.	1/4 A4

13	74	.	.	1/8 A4
1000	1414	.	.	B0
707	1000	.	.	B1
500	707	.	.	B2
353	500	.	.	B3
250	353	.	.	B4
176	250	.	.	B5
201	276	.	.	B5 extra
125	176	.	.	B6
88	125	.	.	B7
62	88	.	.	B8
44	62	.	.	B9
31	44	.	.	B10
162	229	.	.	C5
200	210	.	.	1/6 Deutsche Industrie Norm
<hr/>				
74	105	.	.	A7 envelope
74	148	.	.	A7/A6 envelope
250	353	.	.	B4 envelope
176	250	.	.	B5 envelope
125	176	.	.	B6 envelope
125	229	.	.	B6/C4 envelope
136	353	.	.	1/2 B4 envelope
484	324	.	.	C3 envelope
229	324	.	.	C4 envelope
162	229	.	.	C5 envelope
114	162	.	.	C6 envelope
114	229	.	.	C65 envelope
81	114	.	.	C7 envelope
81	162	.	.	C7/C6 envelope
125	324	.	.	1/2 C4 envelope
110	220	.	.	DL envelope
110	220	.	.	Deutsche Industrie Norm Lang envelope
310	220	.	.	E4 envelope
220	115	.	.	E5 envelope
110	156	.	.	E6 envelope
110	220	.	.	E65 envelope
155	400	.	.	1/2 E4 envelope
104	160	.	.	Hungarian Air Mail envelope
220	220	.	.	Invitation envelope
155	220	.	.	M5 envelope
110	155	.	.	M6 envelope
110	220	.	.	M65 envelope
.	.	3.875	7.50	Monarch envelope
187	122	.	.	Russian Greetings 1 envelope
.	.	3.625	6.50	Size 6 3/4 envelope

. .
. .
. .
. .
. .

3.575	8.875	Size 9 envelope
4.125	9.50	Size 10 envelope
4.50	10.375	Size 11 envelope
4.75	11.00	Size 12 envelope
5.00	11.50	Size 14 envelope





Calculator

Hex	Bin	?000	0?00	00?0	000?
0	0000	0	0	0	0
1	0001	4096	256	16	1
2	0010	8192	512	32	2
3	0011	12288	768	48	3
4	0100	16384	1024	64	4
5	0101	20480	1280	80	5
6	0110	24576	1536	96	6
7	0111	28672	1792	112	7
8	1000	32768	2048	128	8
9	1001	36864	2304	144	9
A	1010	40960	2560	160	10
B	1011	45056	2816	176	11
C	1100	49152	3072	192	12
D	1101	53248	3328	208	13
E	1110	57344	3584	224	14
F	1111	61440	3840	240	15

Hexadecimal, Binary, Decimal calculator and converter.





Codepages

CP	ID	Character Set
037	.	EBCDIC
437	dos-437	MS-DOS, United States
500	.	EBCDIC "500V1"
708	.	Arabic (ASMO 708)
709	.	Arabic (ASMO 449+, BCON V4)
710	.	Arabic (Transparent Arabic)
720	dos-720	Arabic (DOS, Transparent AMSO)
737	.	MS-DOS Greek (was 437G)
775	.	MS-DOS Baltic
847	.	Thai
850	dos-850	Multi-lingual; Western Europe (Latin 1)
852	.	Slavic (Latin 2)
855	.	IBM Cyrillic (Russian)
857	.	Turkish (MS-DOS IBM Turkish)
860	.	Portuguese (MS-DOS Portuguese)
861	.	Icelandic (MS-DOS Icelandic)
862	dos-862	Hebrew (DOS)
863	.	Canadian-French (MS-DOS Canadian French)
864	.	Arabic
865	.	Nordic (MS-DOS Nordic)
866	.	Russian (MS-DOS Russian)
869	.	Modern Greek (IBM Greek)
874	Windows-874	Thai
875	.	EBCDIC
932	shift_jis	JIS/Japan (Shift-JIS)
936	gb2312	Chinese: Simplified characters – PRC and Singapore
949	ks_c_5601	Korean Extended Wansung
950	big5	Chinese: Traditional characters – Taiwan and Hong Kong
1026	.	EBCDIC
1200	.	Unicode (bitmap of ISO 10646)
1250	Windows-1250	Latin 2 East Europe / Central European
1251	Windows-1251	Cyrillic
1252	iso-8859-1	Latin 1
1253	Windows-1253	Greek
1254	Windows-1254	Turkish
1255	iso-8859-8	Hebrew (ISO-Logical or ISO-Visual)
1256	Windows-1256	Arabic (Windows)
1257	Windows-1257	Windows Baltic
1258	Windows-1258	Vietnamese
1361	.	Korean Johab

10000	.	Macintosh Roman
10001	.	Macintosh Japanese
10006	.	Macintosh Greek I
10007	.	Macintosh Cyrillic
10029	.	Macintosh Latin II
10079	.	Macintosh Icelandic
10081	.	Macintosh Turkish
20866	koi8-r	Cyrillic
28585	iso_8859-5	Cyrillic (ISO)
28592	iso-8859-2	Central European
28594	iso-8869-4	Baltic (ISO)
28597	iso-8859-7	Greek (ISO)
28599	iso-8859-9	Turkish (ISO)
50220	iso-2022-jp	Japanese (JIS)
50225	ISO-2022-KR	Korean (ISO)
51932	x-euc-jp	Japanese (EUC)
52936	HZ-GB-2312	Simplified Chinese
65000	UTF-7	Unicode UTF-7
65001	UTF-8	Unicode UTF-8

Codepage and Languages

437	dos-437	Dutch (Belgian), Dutch (standard), English (US), English (Australian), English (British), English (Irish), English (New Zealand), Finnish, French (Belgian), French (standard), French (Swiss), German (Austrian), German (standard), German (Swiss), Italian (standard), Spanish (Mexican), Spanish (modern sort), Spanish (traditional sort)
850	dos-850	Danish, Dutch (Belgian), Dutch (standard), , English (US), English (Australian), English (British), English (Canadian), English (Irish), English (New Zealand), Finnish, French (Belgian), French (Canadian), French (standard), French (Swiss), German (Austrian), German (standard), German (Swiss), Icelandic, Italian (standard), Norwegian (Bokmal), Portuguese (Brazilian), Portuguese (standard), Spanish (Mexican), Spanish (modern sort), Spanish (traditional sort), Swedish
852	.	Croatian, Czech, Hungarian, Polish, Romanian, Slovak, Slovenian, Turkish
855	.	Bulgarian, Czech, Russian
857	.	Turkish
860	.	Portuguese (Brazilian), Portuguese (standard)
861	.	Icelandic
863	.	English (Canadian), French (Canadian)
865	.	Danish, Norwegian (Bokmal), Swedish
866	.	Bulgarian, Russian
869	.	Greek





Windows Key Codes

Constant name	Value	Keyboard equivalent
VK_LBUTTON	01H	Left mouse button or touch screen
VK_RBUTTON	02H	Right mouse button
VK_CANCEL	03H	Used for CTRL + BREAK processing
VK_MBUTTON	04H	Middle mouse button (three-button mouse)
.	05H	Undefined
.	06H	Undefined
.	07H	Undefined
VK_BACK	08H	BACKSPACE key
VK_TAB	09H	TAB key
.	0AH	Undefined
.	0BH	Undefined
VK_CLEAR	0CH	CLEAR key
VK_RETURN	0DH	ENTER key
.	0EH	Undefined
.	0FH	Undefined
VK_SHIFT	10H	SHIFT key
VK_CONTROL	11H	CTRL key
VK_MENU	12H	ALT key
VK_PAUSE	13H	PAUSE key
VK_CAPITAL	14H	CAPS LOCK
.	15H	Reserved for Kanji
.	16H	Reserved for Kanji
.	17H	Reserved for Kanji
.	18H	Reserved for Kanji
.	19H	Reserved for Kanji
.	1AH	Undefined
VK_ESCAPE	1BH	ESC key
.	1CH	Reserved for Kanji
.	1DH	Reserved for Kanji
.	1EH	Reserved for Kanji
.	1FH	Reserved for Kanji
VK_SPACE	20H	SPACEBAR
VK_PRIOR	21H	PAGE UP key
VK_NEXT	22H	PAGE DOWN key
VK_END	23H	END key
VK_HOME	24H	HOME key
VK_LEFT	25H	LEFT ARROW key
VK_UP	26H	UP ARROW key
VK_RIGHT	27H	RIGHT ARROW key
VK_DOWN	28H	DOWN ARROW key
VK_SELECT	29H	SELECT key
VK_PRINT	2AH	(OEM specific)
VK_EXECUTE	2BH	EXECUTE key
VK_SNAPSHOT	2CH	PRINT SCREEN
VK_INSERT	2DH	INS key
VK_DELETE	2EH	DEL key
VK_HELP	2FH	HELP key

VK_0	30H	Top row 0 key
VK_1	31H	Top row 1 key
VK_2	32H	Top row 2 key
VK_3	33H	Top row 3 key
VK_4	34H	Top row 4 key
VK_5	35H	Top row 5 key
VK_6	36H	Top row 6 key
VK_7	37H	Top row 7 key
VK_8	38H	Top row 8 key
VK_9	39H	Top row 9 key
.	3AH	Undefined
.	3BH	Undefined
.	3CH	Undefined
.	3DH	Undefined
.	3EH	Undefined
.	3FH	Undefined
.	40H	Undefined
VK_A	41H	A key
VK_B	42H	B key
VK_C	43H	C key
VK_D	44H	D key
VK_E	45H	E key
VK_F	46H	F key
VK_G	47H	G key
VK_H	48H	H key
VK_I	49H	I key
VK_J	4AH	J key
VK_K	4BH	K key
VK_L	4CH	L key
VK_M	4DH	M key
VK_N	4EH	N key
VK_O	4FH	O key
VK_P	50H	P key
VK_Q	51H	Q key
VK_R	52H	R key
VK_S	53H	S key
VK_T	54H	T key
VK_U	55H	U key
VK_V	56H	V key
VK_W	57H	W key
VK_X	58H	X key
VK_Y	59H	Y key
VK_Z	5AH	Z key
VK_LWIN	5BH	Left Windows key Applications key; Microsoft Natural Keyboard or Windows CE
VK_RWIN	5CH	Right Windows key Applications key; Microsoft Natural Keyboard or Windows CE
VK_APPS	5DH	Applications key; Microsoft Natural Keyboard or Windows CE
.	5EH	Undefined
.	5FH	Undefined

VK_NUMPAD0	60H	Keypad 0
VK_NUMPAD1	61H	Keypad 1
VK_NUMPAD2	62H	Keypad 2
VK_NUMPAD3	63H	Keypad 3
VK_NUMPAD4	64H	Keypad 4
VK_NUMPAD5	65H	Keypad 5
VK_NUMPAD6	66H	Keypad 6
VK_NUMPAD7	67H	Keypad 7
VK_NUMPAD8	68H	Keypad 8
VK_NUMPAD9	69H	Keypad 9
VK_MULTIPLY	6AH	Multiply key (asterisk *)
VK_ADD	6BH	Add key (plus sign +)
VK_SEPARATOR	6CH	Separator key
VK_SUBTRACT	6DH	Subtract key (minus sign -)
VK_DECIMAL	6EH	Decimal key (period .)
VK_DIVIDE	6FH	Divide key (slash /)
VK_F1	70H	F1 function key
VK_F2	71H	F2 function key
VK_F3	72H	F3 function key
VK_F4	73H	F4 function key
VK_F5	74H	F5 function key
VK_F6	75H	F6 function key
VK_F7	76H	F7 function key
VK_F8	77H	F8 function key
VK_F9	78H	F9 function key
VK_F10	79H	F10 function key
VK_F11	7AH	F11 function key
VK_F12	7BH	F12 function key
VK_F13	7CH	F13 function key
VK_F14	7DH	F14 function key
VK_F15	7EH	F15 function key
VK_F16	7FH	F16 function key
VK_F17	80H	F17 function key
VK_F18	81H	F18 function key
VK_F19	82H	F19 function key
VK_F20	83H	F20 function key
VK_F21	84H	F21 function key
VK_F22	85H	F22 function key
VK_F23	86H	F23 function key
VK_F24	87H	F24 function key
.	88H	Unassigned
.	89H	Unassigned
.	8AH	Unassigned
.	8BH	Unassigned
.	8CH	Unassigned
.	8DH	Unassigned
.	8EH	Unassigned
.	8FH	Unassigned
VK_NUMLOCK	90H	NUM LOCK
VK_SCROLL	91H	SCROLL LOCK

.	92-B9H	Unassigned
.	BA-BFH	OEM specific
VK_LSHIFT	A0H	Windows CE
VK_RSHIFT	A1H	Windows CE
VK_LCONTROL	A2H	Windows CE
VK_RCONTROL	A3H	Windows CE
VK_LMENU	A4H	Windows CE
VK_RMENU	A5H	Windows CE
.	A6-C0H	OEM specific
.	C1-DAH	Unassigned
.	DB-E4H	OEM specific
.	E5H	Unassigned
.	E6H	OEM specific
.	E7H	Unassigned
.	E8H	Unassigned
.	E9-F5H	OEM specific
VK_ATTN	F6H	ATTN key; Windows CE
VK_CRSEL	F7H	CRSEL key Windows CE
VK_EXSEL	F8H	EXSEL key; Windows CE
VK_EREOF	F9H	Erase EOF key; Windows CE
VK_PLAY	FAH	Play key; Windows CE
VK_ZOOM	FBH	Zoom key; Windows CE
VK_NONAME	FCH	Reserved; Windows CE
VK_PA1	FDH	PA1 key; Windows CE
VK_EM_CLEAR	FEH	Clear key; Windows CE

This table shows Windows Virtual key codes. The columns are symbolic constant names (defined in WINDOWS.H), hexadecimal values, and keyboard names.





DOS Key Codes

Key	.	Shift	Ctrl	Alt	Char
a A	1E61	1E41	1E01	1E00	1E86
b B	3062	3042	3002	3000	30FE
c C	2E63	2E43	2E03	2E00	2E87
d D	2064	2044	2004	2000	20D0
e E	1265	1245	1205	1200	1291
f F	2166	2146	2106	2100	219F
g G	2267	2247	2207	2200	22CF
h H	2368	2348	2308	2300	23BE
i I	1769	1749	1709	1700	.
j J	246A	244A	240A	2400	2424
k K	256B	244B	250B	2500	25BD
l L	266C	264C	260C	2600	269C
m M	326D	324D	320D	3200	32E6
n N	316E	314E	310E	3100	31D5
o O	186F	184F	180F	1800	189B
p P	1970	1950	1910	1900	19E7
q Q	1071	1051	1011	1000	10A6
r R	1372	1352	1312	1300	.
s S	1F73	1F53	1F13	1F00	1FE1
t T	1474	1454	1414	1400	.
u U	1675	1655	1615	1600	.
v V	2F76	2F56	2F16	2F00	2FF5
w W	1177	1157	1117	1100	11A7
x X	2D78	2D58	2D18	2D00	2DF8
y Y	1579	1559	1519	1500	.
z Z	2C7A	2C5A	2C1A	2C00	2CF4
Esc	011B	011B	011B	0100	011B
0)	0B30	0B29	.	8100	0B30
1 !	0231	0221	.	7800	02AE
2 @	0332	0340	0300	7900	03AF
3 #	0433	.	0423	7A00	04A8
4 \$	0534	0524	.	7B00	0534
5 %	0635	0625	.	7C00	0635
6 ^	0736	075E	071E	7D00	0736
7 &	0837	0826	.	7E00	08AC
8 *	0938	092A	.	7F00	09AB
9 (0A39	0A28	.	8000	0AF3
- _	0C3D	0C5F	0C1F	8200	.
= +	0D3D	0D2B	.	8300	0DF2
BACK	0E08	0E08	0E7F	0E00	0E08
TAB	0F09	0F00	9400	A500	0F09
ENTER	1C0D	1C0D	1C0A	1C00	1C0D
ENTER§	E00D	E00D	E00A	A600	.
; :	273B	273A	.	2700	273A
' "	2827	2822	.	2800	2827

\	2B5C	2B7C	2B1C	2B00	2B5C
,<	332C	333C	.	3300	.
.>	342E	343E	.	3400	34FA
/?	352F	353F	.	3500	35F6
GRAY /	E02F	E02F	9500	A400	.
SPACE	3920	3920	3920	3920	3920
F1	3B00	5400	5E00	6800	DB00
F2	3C00	5500	5F00	6900	DC00
F3	3D00	5600	6000	6A00	DD00
F4	3E00	5700	6100	6B00	DE00
F5	3F00	5800	6200	6C00	DF00
F6	4000	5900	6300	6D00	E000
F7	4100	5A00	6400	6E00	E100
F8	4200	5B00	6500	6F00	E200
F9	4300	5C00	6600	7000	E300
F10	4400	5D00	6700	7100	E400
F11	5700	8700	8900	8B00	.
F12	5800	8800	8A00	8C00	.
HOME 7	4700	4737	7700	.	4700
HOME§	47E0	47E0	77E0	9700	.
UP 8	4800	4838	8D00	.	4800
UP§	48E0	48E0	8DE0	9800	.
PgUP 9	4900	4939	8400	.	4900
PgUP§	49E0	49E0	84E0	9900	.
GRAY -	4A2D	4A2D	8E00	4A00	4AF0
LEFT 4	4B00	4B34	7300	.	4B00
LEFT§	4B30	4BE0	73E0	9B00	.
CENTER 5	4C00	4C35	8F00	.	.
CENTER§	4C00	8FE0	4C00	9C00	.
RIGHT 6	4D00	4D36	7400	.	4D00
RIGHT§	4D00	4DE0	74E0	9D00	.
END 1	4F00	4F31	7500	.	4F00
END§	4FE0	4FE0	75E0	9FE0	.
DOWN 2	5000	5032	9100	.	5000
DOWN§	50E0	50E0	50E0	A000	.
PgDN 3	5100	5133	7600	.	5100
PgDN§	51E0	51E0	76E0	A100	.
INS 0	5200	5230	9200	.	5200
INS§	52E0	52E0	92E0	A2E0	.
DEL .	5300	532E	9300	.	5300
GRAY *	372A	.	9600	.	379E
GRAY =	0D3D	0D3D	.	8300	0DF2
MENU§	C800	C900	CA00	CB00	.

§ Combinations available with extended keyboard BIOS only. Char prefix key and Menu key available on Hewlett-Packard Palmtops.



Solar Total Eclipse: Galapagos Islands, Panama, Colombia, Venezuela

Solar Total Eclipse: Europe, Middle East, India

New Year's Day

Martin Luther King Jr. Day

Martin Luther King Jr. Birthday

Australia Day (Australia)

Freedom Day, 13th Amendment

Groundhog Day

Constitution Day (Mexico)

Grandparent's Day

Sadie Hawkin's Day

Waitangi Day (New Zealand)

National Foundation Day (Japan)

Abraham Lincoln's Birthday

Valentine's Day

Susan B. Anthony Day

President's Day

Washington's Birthday

Passover

Commonwealth Day (Canada)

St. Patrick's Day

First day of Spring

Benito Juarez' Birthday (Mexico)

April Fool's Day

Patriot's Day

Daylight savings begins (set clock ahead 1 hour)

Palm Sunday

Arbor Day - Plant a tree, Bird Day

Good Friday

Buddha's Birthday (Japan, Korea)

Israel Independence Day
Earth Day
Secretaries' Day

Ash Wednesday

Easter Sunday

Greek Orthodox Easter

May Day
Lawyer's Day

Cinco de Mayo (Mexico)

Mother's Day

Armed Forces Day

Victoria Day (Canada)

Memorial Day

Memorial Day (traditional)

Flag Day

Father's Day

First Day of Summer

Canada Day

Independence Day

Bastille Day (France)

Labor Day

Respect for the Aged Day (Japan)

Mexican Independence Day

First Day of Autumn

Confucius' Birthday, Teacher's Day (Taiwan)

Yom Kippur

Canadian Thanksgiving Day

Columbus Day

United Nations Day

Daylight Savings Time Ends (set clock back 1 hour)

Halloween

November 1-2 Day of the Dead (Mexico)

Guy Fawkes Day (England)

Veteran's Day
Canadian Remembrance Day

Thanksgiving Day

Guadalupe Day (Mexico)

First Day of Hanukah

First Day of Winter

Christmas Day

Boxing Day (Australia, Canada, England)
December 26- January 1 - Kwanzaa (Traditional African harvest festival)



Calendar

Sun	Mon	Tue	Wed	Thu	Fri	Sat	
.	.	.	.	<u>1</u>	2	3	January 1998
4	5	6	7	8	9	10	
11	12	13	14	<u>15</u>	16	17	
18	<u>19</u>	20	21	<u>22</u>	23	24	
25	26	27	28	29	30	<u>31</u>	

<u>1</u>	<u>2</u>	3	4	<u>5</u>	<u>6</u>	7	February 1998
8	9	10	<u>11</u>	<u>12</u>	13	<u>14</u>	
<u>15</u>	<u>16</u>	17	<u>18</u>	<u>19</u>	20	<u>21</u>	
<u>22</u>	<u>23</u>	24	<u>25</u>	<u>26</u>	27	28	

1	2	3	4	5	6	7	March 1998
8	9	10	11	12	<u>13</u>	14	
15	16	<u>17</u>	18	19	<u>20</u>	<u>21</u>	
22	23	<u>24</u>	25	26	<u>27</u>	28	
29	30	31	

.	.	.	<u>1</u>	2	3	4	April 1998
<u>5</u> *	6	7	<u>8</u>	9	<u>10</u>	<u>11</u>	
<u>12</u>	13	14	15	16	<u>17</u>	18	
<u>19</u>	<u>20</u>	21	<u>22</u>	23	<u>24</u>	25	
26	27	28	29	30	.	.	

.	<u>1</u>	2	May 1998
3	4	<u>5</u>	6	7	8	9	
<u>10</u>	11	12	13	14	15	<u>16</u>	
17	18	19	20	21	22	23	
<u>24</u>	<u>25</u>	26	27	28	29	<u>30</u>	
31	

.	1	2	3	4	5	6	June 1998
7	8	9	10	11	12	13	
<u>14</u>	15	16	17	18	19	20	
<u>21</u> *	22	23	24	25	26	27	
28	29	30	

.	.	.	<u>1</u>	2	3	<u>4</u>	July 1998
5	6	7	8	9	10	11	
12	13	<u>14</u>	15	16	17	18	
19	20	21	22	23	24	25	
26	27	28	29	30	31	.	

.	1	August 1998
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	17	18	19	20	21	22	
23	24	25	26	27	28	29	

30 31

. . 1 2 3 4 5 **September 1998**
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 . . .

. . . . 1 2 3 **October 1998**
4 5 6 7 8 9 10
11 12 * 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31

1 2 3 4 5 6 7 **November 1998**
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 . . .

. . 1 2 3 4 5 **December 1998**
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31 . .

. 1 2 **January 1999**
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31

. 1 2 3 4 5 6 **February 1999**
7 8 9 10 11 12 13
14 15 * 16 17 18 19 20
21 22 23 24 25 26 27
28

. 1 2 3 4 5 6 **March 1999**
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30 31 . . .

. . . . 1 2 3 **April 1999**
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 .

.	<u>1</u>	May 1999
2	3	4	<u>5</u>	6	7	8	
<u>9</u>	10	11	<u>12</u>	13	14	15	
<u>16</u>	<u>17</u>	18	19	20	21	22	
<u>23</u>	<u>24</u>	25	26	27	28	29	
30	31	

.	.	1	2	3	4	5	June 1999
6	7	8	9	10	11	12	
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<u>20</u>	21	22	23	24	25	26	
27	28	29	30	.	.	.	

.	.	.	.	<u>1</u>	2	3	July 1999
<u>4</u>	5	6	7	8	9	10	
11	12	13	<u>14</u>	15	16	17	
18	19	20	<u>21</u>	22	23	24	
25	26	27	28	29	30	31	

1	2	3	4	5	6	7	August 1999
8	9	10	<u>11</u>	12	13	14	
15	16	17	18	19	20	21	
22	26	24	25	26	27	28	
29	30	31	

.	.	.	1	2	3	4	September 1999
5	<u>6</u>	7	8	9	10	11	
<u>12</u>	<u>13</u>	14	<u>15</u>	<u>16</u>	17	18	
19	20	21	<u>22</u>	<u>23</u>	24	25	
26	27	<u>28</u>	29	30	.	.	

.	1	2	October 1999
3	4	5	6	7	8	9	
10	<u>11</u> *	12	13	14	15	16	
17	18	19	20	21	22	23	
<u>24</u>	25	26	27	28	29	30	
<u>31</u>	

.	<u>1</u>	2	3	4	<u>5</u>	<u>6</u>	November 1999
7	8	9	10	<u>11</u>	12	13	
14	15	16	17	<u>18</u>	19	20	
21	22	23	24	<u>25</u>	26	27	
28	29	30	

.	.	.	1	2	3	4	December 1999
5	6	7	8	9	10	11	
<u>12</u>	13	14	15	16	17	18	
19	20	21	22	23	24	<u>25</u>	
<u>26</u>	27	28	29	30	31	.	

.	<u>1</u>	January 2000
2	3	4	5	6	7	8	
9	10	11	12	13	14	15	
16	<u>17</u>	18	19	20	21	22	
23	24	25	26	27	28	29	
30	<u>31</u>	





Words

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A

abscess
accentuate
accept (receive, admit) | except (exclude)
accessible
accessory
accidentally
accommodate
accompany
accounts receivable
accrue
acknowledge, acknowledgment
acquaintance, acquainted
acquire
acronym
Ada
adapter
address
affect (bring about) | effect (result)
AI (Artificial Intelligence)
aisle | isle
algebraic
algorithm
aloud (voice orally) | allowed (permitted)
all right
allege
allude (indirect reference) | elude (evade), allusion | elusion
a lot (large amount) | allot (distribute or assign)
alphanumeric
already
ALT (key)
alternate (a substitute) | alternative (a choice)
A.M. (morning)
amateur
among (with) | between (separating)
ampersand
analogous
ANSI (American National Standards Institute)
Antarctic
antecedent
anthropomorphic, anthropomorphism
anybody (any person) | any body (a body)
anyone (like anybody) | any one (any single thing)
anyway (not *anyways*)
apostrophe
apparent
appearance
appendix
appropriate
arctic
argument (passed to a function) | parameter
Arkansas

arithmetic
Armageddon
asterisk ("*" writing) | star (computing)
asthma
athletic
ASCII (American Standard Code for Information Interchange)
ATM
attendance
attorney
auxiliary
awhile (adverb: stay for awhile) | a while (stay a while)
axis

B

Babbage
background
backslash (the "\" character; "/" is slash)
backspace (on the keyboard)
backward (not *backwards*)
banana
bargain
Basic (an acronym that isn't capitalized!)
baud
bazaar (market) | bizarre (manner)
BBS (Bulletin Board System)
beginning
believe
benign
between (separating) | among (with)
Bézier
biscuit
bitmap
bite | byte (8-bits)
bizarre
boilerplate
bookkeeper
Boolean
briefcase
browse, browser
Btu (British thermal unit)
buoyant
bureau
burglar
business

C

cache (storage) | cash (\$)
CAD (Computer Aided Design) | CADD (Computer Aided Design and Drafting)
calendar
cancel, canceled, cancellation
cantaloupe
capital (a city or money) | capitol (a building)
cardinal
carriage return
cascade, cascading
catalog

caterpillar
CD-ROM
ceiling
cellar
cemetery
centimeter
cereal (grain) | serial (a series)
chamois
chandelier
changeable
chaperon
character
chauffeur
chief
chocolate
cinnamon
circuit
circumference
client
COBOL (Common Business Oriented Language)
cocoa
Codepage
collapse
colloquial, colloquialism
colonel (rank) | kernel (seed)
column, columnar
commendable
commitment
committee
compliment (praise) | complement (make whole)
commodity
concede
conceive
Connecticut
conscientious
conscious
consensus
consignment
contiguous
convenience, convenient
corduroy
correspondent
cough
counterfeit
CPU
criteria (plural), criterion (singular)
CTRL (key)
cubicle
cursor (input) | pointer (mouse)

D

dash (the "-" character)
database
debt (owe) | debit (account)
debug
deceive

decrement
deference (respect) | difference (unlike)
definite
dependent
describe, description
descriptor
design
desirable
desktop
despair
desperate
desperately
dessert (sweet) | desert (abandon, desolate area)
device (tool) | devise (plan)
dialog
diaphragm
diarrhea
dash (computing) | hyphen (writing)
dictionary
Dilbert
dingbat
disappear
disappoint
disc (CD) | disk (hard or floppy)
discreet (restrained)
discrete (separate parts)
disinterested (impartial) | uninterested (not interested)
dispel
dissatisfied
DLL (Dynamic Link Library)
DOS
dot (computing) | period (writing) | point (accounting)
download
DVD-ROM

E

EBCDIC (Extended Binary Coded Decimal Interchange Code)
ecstatic, excited
effect (result) | affect (bring about)
effervescent
eighth
eliminate
ellipsis | ellipse
elude (evade) | allude (indirect reference), elusion | allusion
e-mail
embarrass
embezzle
em dash (the "—" character)
emphasize
en dash (the "-" character; 1/2 em-dash)
ENIAC (Electronic Numerical Integrator And Calculator)
ensure (make sure) | insure (insurance)
entity
entropy
environment, environmental, environmentally
EPROM (Erasable Programmable Read Only Memory)

equation
equipped
erroneous
especially (particularly) | specially (exceptional)
etiquette



euro (European currency)
every day (recurring) | everyday (ordinary)
everyone (every person) | every one (every thing)
exaggerate
exceed
excel
except (exclude) | accept (receive, admit)
existence
expense

F

facsimile
familiar
farther (about distance) | further (time or quantity)
fascinate, fascinating
fatigue
February
fewer than (number) | less than (quantity)
fiancée (female) | fiancé (male)
file name (name) | filename (placeholder)
finally
financier
flammable
fluorine
foreclosure
foreground
forehead
foreign
foreword (book preface) | forward (direction)
formerly (earlier) | formally (formal)
forth (onward) | fourth (4th)
Fortran
forward (not *forwards*)
forty
fragile
freight

G

gateway
gauge
GB (gigabyte)
GHz (gigahertz)
glacier
good | well
gorilla (an ape) | guerrilla (paramilitary)
got (past tense of *get*; come into possession of) | have (possess)
government
grammar
gray

grease
guarantee
guess
guest

H

handheld
handkerchief
harass
height
heir
hemorrhage
hexadecimal
highlight
hierarchy, hierarchical
hopeful, hopefully
humorous
hurrying
hygiene
hyphen, hyphenate (dash is more common than hyphen)
hypocrisy
hypothesis

I

idol | idle
illustration
imply (suggest) | infer (deduce)
incidentally
incite (provoke) | insight (discerning)
increment
independent, independence
indict
indispensable
infinitesimal
inoculate
insure (insurance) | ensure (make sure)
intelligent
interactive
Internet (always capitalized)
Intranet (internal Internet)
irresistible
isthmus
its (possessive) | it's (it is)

J

Jacquard
jargon
joystick
judgment
justified

K

K (kilobyte) | k (kilobit)
karate
KB (kilobyte) | Kb (kilobit)
kernel (seed) | colonel (rank)

keyboard
keystroke
keyword
khaki
kHz (kilohertz)
kilobyte
kilohertz
kluge (not kludge)

L

labeled
laboratory
laptop
larynx
laugh
laying (placing) | lying (reclining)
league
lectern (a stand or desk) | podium (a platform)
less than (quantity or volume) | fewer than (number)
libel (false writing) | slander (verbal false statements)
library
license
licorice
lightning
liquefy
literature
localize, localization
lose (mislay) | loose (not tight)
Lovelace (Agusta Ada)
lowercase

M

Macintosh
maintain, maintenance
mainframe
malign
manage, management
maneuver
manual
marquee
marriage
mathematical, mathematics
matrix, matrices
mattress
Mb (megabit) | MB (megabyte)
measurement
megabyte
megahertz
MHz (megahertz)
microcomputer
microprocessor
medieval
millennium
miniature
minicomputer
minuscule

mischief
missionary
Mississippi
misspell, misspelled
misstate
mnemonic
molasses
Mothers-in-law
memento
monospace
mortgage
mosquito, mosquitoes
motherboard
movable
MS-DOS
multitasking
multithread
mysterious

N

nanosecond
necessary
neighbor
niece
notebook
noticeable
nuisance
null
numeric, numerical

O

obedience
object-oriented
occasion
occur, occurred
o'clock
offense
okay (instead of *OK*)
omitted
online
opportunity
optimistic

P

palette
parallel, parallelism, parallelogram
parameter | argument (passed to a function)
parentheses (plural), parenthesis (singular)
parliament
PC
PCMCIA
Pennsylvania
percentage
performance
period (writing) | point (accounting) | dot (computing)
permanent

peripheral
personal (private) | personnel (members)
phenomenal, phenomenon
physician
plaid
pneumonia
podium (a platform) | lectern (a stand or desk)
pointer (mouse) | cursor (input)
politically
pop-up
porcelain
portable
possess
potato, potatoes
P.M. (afternoon)
prairie
precede (come before) | proceed (go forward)
preceding
prefer, preferred
principle (truth) | principal (person)
privilege
probably
procedure
property, properties
protégé
pseudonym
psychology
punctuation
ptomaine

Q

quiet (silent) | quite (completely)

R

radix
RAM (Random Access Memory)
rarefy
raspberry
receipt
receive
recess
recognize, recognition
recycle
reference
register, registry
remittance
rendezvous
repellent
repentance
reservoir
resume (continue again) | résumé (summary)
reverence
rhythm
ridiculous
ROM (Read Only Memory)
rpm (revolutions per minute)

run-time (hyphenated)

S

sacrilege, sacrilegious
sandwich
S. A. S. E. (self-addressed stamped envelope)
satire (irony) | satyr (woodland creature)
scalable (rarely *scaleable*)
scenario
schematic
scissors
secretary
seize
semicolon
semiconductor
separately
serial (a series) | cereal (grain)
SHIFT (key)
shortcut (not hyphenated)
siege
sieve
silicon (a silica) | silicone (a polymer)
similar
sincerely
slander (verbal false statements) | libel (false writing)
slash (the "/" forward slash character; backslash is "\")
soliloquy
special
specially (exceptional) | especially (particularly)
specification
spreadsheet
squirrel
star (computing) | asterisk ("*" writing)
stationary (stopped) | stationery (paper)
straight (not curved) | strait (channel, position)
strengthen
stylus
subheading (not hyphenated)
succeed, success
suit (clothes) | suite (group)
superintendent
supersede
susceptible
syntactic, syntactical
syringe

T

tariff
temperance
tenacious
tenant (renter) | tenet (opinion, principle)
Terabyte
than | then
that (restrictive, dependent clause) | which (independent clause)
their (possessive) | there | they're (they are)
threshold

till (plow or drawer) | 'til (until)
to (direction) | too (also) | two (2)
toggle
tomato, tomatoes
tortuous (winding or twisting) | torturous (painful)
toward (not *towards*)
trackball (not hyphenated)
trademark
tragedy
transferred
troubleshoot, troubleshooting
truly
Tuesday
typographical

U

underscore (the "_" character)
undo (never *undos*)
uninterested (not interested) | disinterested (impartial)
UNIVAC (Universal Automatic Computer)
update
uppercase (not hyphenated)
usable (rarely *useable*)
USB (Universal Serial Bus)
useful
usually

V

vaccinate
vacuum
vestibule
VGA (Video Graphics Array)
villain
vinegar
virtual, virtualize

W

warrant
warranty (the agreement) | warrantee (the person)
Wednesday
weasel
Web (Internet)
weird
well | good
which (independent clause) | that (restrictive, dependent clause)
wholly
whose (possessive) | who's (who is)
withhold
wizard
word processor (two words)
worksheet
workspace
workstation
WWW (World-Wide Web)
WYSIWYG (What You See Is What You Get)

X

x-axis

Y

y-axis

yolk

your (possessive) | you're (you are)

Z

z-axis

zeros

ZIP (postal Zone Improvement Plan) | Zip (file compression or lomega disk)

This list includes misspelled, confused, misused, and incorrectly capitalized words.





The Elements of Style

by William Strunk, Jr.

I. INTRODUCTORY

- Title
- This book is intended...
- Acknowledgments
- Some writers disregard the rules

II. ELEMENTARY RULES OF USAGE

1. Form the possessive singular of nouns with 's
 - Exceptions
2. In a series of three or more terms with a single conjunction, use a comma after each term except the last
3. Enclose parenthetical expressions between commas
 - Non-restrictive relative clauses
 - Restrictive relative clauses
4. Place a comma before and or but introducing an independent clause
 - Subordinate clauses
 - Independent clauses
5. Do not join independent clauses by a comma
 - Conjunctions
6. Do not break sentences in two
 - Emphatic sentences
7. A participial phrase at the beginning of a sentence must refer to the grammatical subject
 - Preceded by a conjunction or preposition
8. Divide words at line-ends, in accordance with their formation and pronunciation
 - Vowels
 - Double letters
 - Consonants

III. ELEMENTARY PRINCIPLES OF COMPOSITION

9. Make the paragraph the unit of composition: one paragraph to each topic
 - Short notice or poem
 - Report on a poem
 - Novel or historical event
 - Rules
10. As a rule, begin each paragraph with a topic sentence; end it in conformity with the beginning
 - Part of a larger composition
 - Narration
11. Use the active voice
 - Exceptions
 - Forcible writing
 - Avoid making one passive depend directly upon another
 - Don't use the subject of a passive construction to express action
12. Put statements in positive form
 - As a rule, it is better to express a negative in positive form
13. Omit needless words
 - Common violations
 - The fact that
 - Who is, which was, and the like
14. Avoid a succession of loose sentences
 - Recast sentences to remove monotony
15. Express co-ordinate ideas in similar form
 - Articles and prepositions
 - Correlative expressions

16. Keep related words together

- Relative pronouns
- Antecedents
- Nouns in apposition

17. In summaries, keep to one tense

- Summarizing

18. Place the emphatic words of a sentence at the end

- Periodic sentences
- Subject at the beginning

IV. A FEW MATTERS OF FORM

- Headings
- Numerals
- Parentheses
- Quotations
- Quotations of an entire line
- References
- Titles

V. WORDS AND EXPRESSIONS COMMONLY MISUSED

- Words

VI. WORDS COMMONLY MISSPELLED

- Words



The Elements of Style

by William Strunk, Jr.

Copyright 1918 By William Strunk, Jr.
Professor of English, Cornell University

William Strunk, Jr., 1869-1946

Privately printed in Ithaca, N. Y.
Press of W. P. Humphrey, Geneva, N. Y.

Click a topic to see the information in a pop-up window.

I INTRODUCTORY.

This book is intended for use in English courses in which the practice of composition is combined with the study of literature. It aims to give in brief space the principal requirements of plain English style. It aims to lighten the task of instructor and student by concentrating attention (in Chapters II and III) on a few essentials, the rules of usage and principles of composition most commonly violated. The numbers of the sections may be used as references in correcting manuscript.

The book covers only a small portion of the field of English style, but the experience of its writer has been that once past the essentials, students profit most by individual instruction based on the problems of their own work, and that each instructor has his own body of theory, which he prefers to that offered by any textbook.

The writer's colleagues in the Department of English in Cornell University have greatly helped him in the preparation of his manuscript. Mr. George McLane Wood has kindly consented to the inclusion under Rule 11 of some material from his Suggestions to Authors.

More...

The following books are recommended for reference or further study: in connection with Chapters II and IV, F. Howard Collins, *Author and Printer* (Henry Frowde); Chicago University Press, *Manual of Style*; T. L. De Vinne *Correct Composition* (The Century Company); Horace Hart, *Rules for Compositors and Printers* (Oxford University Press); George McLane Wood, *Extracts from the Style-Book of the Government Printing Office* (United States Geological Survey); in connection with Chapters III and V, Sir Arthur Quiller-Couch, *The Art of Writing* (Putnams), especially the chapter, *Interlude on Jargon*; George McLane Wood, *Suggestions to Authors* (United States Geological Survey); John Leslie Hall, *English Usage* (Scott, Foresman and Co.); James P. Kelly, *Workmanship in Words* (Little, Brown and Co.).

More...

It is an old observation that the best writers sometimes disregard the rules of rhetoric. When they do so, however, the reader will usually find in the sentence some compensating merit, attained at the cost of the violation. Unless he is certain of doing as well, he will probably do best to follow the rules. After he has learned, by their guidance, to write plain English adequate for everyday uses, let him look, for the secrets of style, to the study of the masters of literature.

1 Form the possessive singular of nouns with 's.

Follow this rule whatever the final consonant. Thus write,

Charles's friend

Burns's poems

the witch's malice

This is the usage of the United States Government Printing Office and of the Oxford University Press.

More...

Exceptions are the possessives of ancient proper names in *-es* and *-is*, the possessive *Jesus'*, and such forms as *for conscience' sake*, *for righteousness' sake*. But such forms as *Achilles' heel*, *Moses' laws*, *Isis' temple* are commonly replaced by

the heel of Achilles

the laws of Moses

the temple of Isis

The pronominal possessives *hers*, *its*, *theirs*, *yours*, and *oneself* have no apostrophe.

2 In a series of three or more terms with a single conjunction, use a comma after each term except the last.

Thus write,

red, white, and blue

honest, energetic, but headstrong

He opened the letter, read it, and made a note of its contents.

This is also the usage of the Government Printing Office and of the Oxford University Press.

In the names of business firms the last comma is omitted, as

Brown, Shipley and Company

The abbreviation *etc.*, even if only a single term comes before it, is always preceded by a comma.

3 Enclose parenthetical expressions between commas.

The best way to see a country, unless you are pressed for time, is to travel on foot.

This rule is difficult to apply; it is frequently hard to decide whether a single word, such as *however*, or a brief phrase, is or is not parenthetical. If the interruption to the flow of the sentence is but slight, the writer may safely omit the commas. But whether the interruption be slight or considerable, he must never omit one comma and leave the other. Such punctuation as

Marjorie's husband, Colonel Nelson paid us a visit yesterday,

or

My brother you will be pleased to hear, is now in perfect health,

is indefensible.

More...

Non-restrictive relative clauses are, in accordance with this rule, set off by commas.

The audience, which had at first been indifferent, became more and more interested.

Similar clauses introduced by where and when are similarly punctuated.

In 1769, when Napoleon was born, Corsica had but recently been acquired by France.

Nether Stowey, where Coleridge wrote *The Rime of the Ancient Mariner*, is a few miles from Bridgewater.

In these sentences the clauses introduced by *which*, *when*, and *where* are non-restrictive; they do not limit the application of the words on which they depend, but add, parenthetically, statements supplementing those in the principal clauses. Each sentence is a combination of two statements which might have been made independently.

The audience was at first indifferent. Later it became more and more interested.

Napoleon was born in 1769. At that time Corsica had but recently been acquired by France.

Coleridge wrote *The Rime of the Ancient Mariner* at Nether Stowey. Nether Stowey is only a few miles from Bridgewater.

Restrictive relative clauses are not set off by commas.

The candidate who best meets these requirements will obtain the place.

In this sentence the relative clause restricts the application of the word *candidate* to a single person. Unlike those above, the sentence cannot be split into two independent statements.

The abbreviations *etc.* and *jr.* are always preceded by a comma, and except at the end of a sentence, followed by one.

Similar in principle to the enclosing of parenthetical expressions between commas is the setting off by commas of phrases or dependent clauses preceding or following the main clause of a sentence. The sentences quoted in this section and under Rules 4, 5, 6, 7, 16, and 18 should afford sufficient guidance.

If a parenthetical expression is preceded by a conjunction, place the first comma before the conjunction, not after it.

He saw us coming, and unaware that we had learned of his treachery, greeted us with a smile.

4 Place a comma before *and* or *but* introducing an independent clause.

The early records of the city have disappeared, and the story of its first years can no longer be reconstructed.

The situation is perilous, but there is still one chance of escape.

Sentences of this type, isolated from their context, may seem to be in need of rewriting. As they make complete sense when the comma is reached, the second clause has the appearance of an after-thought. Further, *and*, is the least specific of connectives. Used between independent clauses, it indicates only that a relation exists between them without defining that relation. In the example above, the relation is that of cause and result. The two sentences might be rewritten:

As the early records of the city have disappeared, the story of its first years can no longer be reconstructed.

Although the situation is perilous, there is still one chance of escape.

More...

Or the subordinate clauses might be replaced by phrases:

Owing to the disappearance of the early records of the city, the story of its first years can no longer be reconstructed.

In this perilous situation, there is still one chance of escape.

But a writer may err by making his sentences too uniformly compact and periodic, and an occasional loose sentence prevents the style from becoming too formal and gives the reader a certain relief. Consequently, loose sentences of the type first quoted are common in easy, unstudied writing. But a writer should be careful not to construct too many of his sentences after this pattern (see Rule 14).

Two-part sentences of which the second member is introduced by as (in the sense of because), for, or, nor, and while (in the sense of and at the same time) likewise require a comma before the conjunction.

More...

If a dependent clause, or an introductory phrase requiring to be set off by a comma, precedes the second independent clause, no comma is needed after the conjunction.

The situation is perilous, but if we are prepared to act promptly, there is still one chance of escape.

For two-part sentences connected by an adverb, see the next section.

5 Do not join independent clauses by a comma.

If two or more clauses, grammatically complete and not joined by a conjunction, are to form a single compound sentence, the proper mark of punctuation is a semicolon.

Stevenson's romances are entertaining; they are full of exciting adventures.

It is nearly half past five; we cannot reach town before dark.

It is of course equally correct to write the above as two sentences each, replacing the semicolons by periods.

Stevenson's romances are entertaining. They are full of exciting adventures.

It is nearly half past five. We cannot reach town before dark.

More...

If a conjunction is inserted, the proper mark is a comma (Rule 4).

Stevenson's romances are entertaining, for they are full of exciting adventures.

It is nearly half past five, and we cannot reach town before dark.

Note that if the second clause is preceded by an adverb, such as *accordingly*, *besides*, *so*, *then*, *therefore*, or *thus*, and not by a conjunction, the semicolon is still required.

I had never been in the place before; so I had difficulty in finding my way about.

In general, however, it is best, in writing, to avoid using *so* in this manner; there is danger that the writer who uses it at all may use it too often. A simple correction, usually serviceable, is to omit the word *so*, and begin the first clause with *as*:

As I had never been in the place before, I had difficulty in finding my way about.

If the clauses are very short, and are alike in form, a comma is usually permissible:

Man proposes, God disposes.

The gate swung apart, the bridge fell, the portcullis was drawn up.

6 Do not break sentences in two.

In other words, do not use periods for commas.

I met them on a Cunard liner several years ago. Coming home from Liverpool to New York.

He was an interesting talker. A man who had traveled all over the world, and lived in half a dozen countries.

In both these examples, the first period should be replaced by a comma, and the following word begun with a small letter.

More...

It is permissible to make an emphatic word or expression serve the purpose of a sentence and to punctuate it accordingly:

Again and again he called out. No reply.

The writer must, however, be certain that the emphasis is warranted, and that he will not be suspected of a mere blunder in punctuation.

Rules 3, 4, 5, and 6 cover the most important principles in the punctuation of ordinary sentences; they should be so thoroughly mastered that their application becomes second nature.

7 A participial phrase at the beginning of a sentence must refer to the grammatical subject.

Walking slowly down the road, he saw a woman accompanied by two children.

The word *walking* refers to the subject of the sentence, not to the woman. If the writer wishes to make it refer to the woman, he must recast the sentence:

He saw a woman, accompanied by two children, walking slowly down the road.

More...

Participial phrases preceded by a conjunction or by a preposition, nouns in apposition, adjectives, and adjective phrases come under the same rule if they begin the sentence.

On arriving in Chicago, his friends met him at the station.

When he arrived (or, On his arrival) in Chicago, his friends met him at the station.

A soldier of proved valor, they entrusted him with the defense of the city.

A soldier of proved valor, he was entrusted with the defense of the city.

Young and inexperienced, the task seemed easy to me.

Young and inexperienced, I thought the task easy.

Without a friend to counsel him, the temptation proved irresistible.

Without a friend to counsel him, he found the temptation irresistible.

Sentences violating this rule are often ludicrous.

Being in a dilapidated condition, I was able to buy the house very cheap.

Divide words at line-ends, in accordance with their formation and pronunciation.

If there is room at the end of a line for one or more syllables of a word, but not for the whole word, divide the word, unless this involves cutting off only a single letter, or cutting off only two letters of a long word. No hard and fast rule for all words can be laid down. The principles most frequently applicable are:

a. Divide the word according to its formation:

know-ledge (not knowl-edge); Shake-speare (not Shakes-peare); de-scribe (not des-cribe); atmo-sphere (not atmos-phere);

More...

- b Divide "on the vowel:"
edi-ble (not ed-ible); propo-sition; ordi-nary; espe-cial; reli-gious; oppo-nents; regu-lar; classi-fi-ca-tion (three divisions possible); deco-rative; presi-dent;
- c. Divide between double letters, unless they come at the end of the simple form of the word:
Apen-nines; Cincin-nati; refer-ring; but tell-ing.

More...

The treatment of consonants in combination is best shown from examples:

for-tune; pic-ture; presump-tuous; illus-tration; sub-stan-tial (either division); indus-try; instruc-tion; sug-ges-tion; incen-diary.

The student will do well to examine the syllable-division in a number of pages of any carefully printed book.

9 Make the paragraph the unit of composition: one paragraph to each topic.

If the subject on which you are writing is of slight extent, or if you intend to treat it very briefly, there may be no need of subdividing it into topics. Thus a brief description, a brief summary of a literary work, a brief account of a single incident, a narrative merely outlining an action, the setting forth of a single idea, any one of these is best written in a single paragraph. After the paragraph has been written, it should be examined to see whether subdivision will not improve it.

Ordinarily, however, a subject requires subdivision into topics, each of which should be made the subject of a paragraph. The object of treating each topic in a paragraph by itself is, of course, to aid the reader. The beginning of each paragraph is a signal to him that a new step in the development of the subject has been reached.

More...

The extent of subdivision will vary with the length of the composition. For example, a short notice of a book or poem might consist of a single paragraph. One slightly longer might consist of two paragraphs:

- A. Account of the work.
- B. Critical discussion.

More...

A report on a poem, written for a class in literature, might consist of seven paragraphs:

- A. Facts of composition and publication.
- B. Kind of poem; metrical form.
- C. Subject.
- D. Treatment of subject.
- E. For what chiefly remarkable.
- F. Wherein characteristic of the writer.
- G. Relationship to other works.

The contents of paragraphs C and D would vary with the poem. Usually, paragraph C would indicate the actual or imagined circumstances of the poem (the situation), if these call for explanation, and would then state the subject and outline its development. If the poem is a narrative in the third person throughout, paragraph C need contain no more than a concise summary of the action. Paragraph D would indicate the leading ideas and show how they are made prominent, or would indicate what points in the narrative are chiefly emphasized.

A novel might be discussed under the heads:

- A. Setting.
- B. Plot.
- C. Characters.
- D. Purpose.

A historical event might be discussed under the heads:

- A. What led up to the event.
- B. Account of the event.
- C. What the event led up to.

In treating either of these last two subjects, the writer would probably find it necessary to subdivide one or more of the topics here given.

More...

As a rule, single sentences should not be written or printed as paragraphs. An exception may be made of sentences of transition, indicating the relation between the parts of an exposition or argument. In dialogue, each speech, even if only a single word, is a paragraph by itself; that is, a new paragraph begins with each change of speaker. The application of this rule, when dialogue and narrative are combined, is best learned from examples in well-printed works of fiction.

10 As a rule, begin each paragraph with a topic sentence; end it in conformity with the beginning.

Again, the object is to aid the reader. The practice here recommended enables him to discover the purpose of each paragraph as he begins to read it, and to retain the purpose in mind as he ends it. For this reason, the most generally useful kind of paragraph, particularly in exposition and argument, is that in which

- a. the topic sentence comes at or near the beginning;
- b. the succeeding sentences explain or establish or develop the statement made in the topic sentence; and
- c. the final sentence either emphasizes the thought of the topic sentence or states some important consequence.

Ending with a digression, or with an unimportant detail, is particularly to be avoided.

More...

If the paragraph forms part of a larger composition, its relation to what precedes, or its function as a part of the whole, may need to be expressed. This can sometimes be done by a mere word or phrase (*again; therefore; for the same reason*) in the topic sentence. Sometimes, however, it is expedient to precede the topic sentence by one or more sentences of introduction or transition. If more than one such sentence is required, it is generally better to set apart the transitional sentences as a separate paragraph.

According to the writer's purpose, he may, as indicated above, relate the body of the paragraph to the topic sentence in one or more of several different ways. He may make the meaning of the topic sentence clearer by restating it in other forms, by defining its terms, by denying the converse, by giving illustrations or specific instances; he may establish it by proofs; or he may develop it by showing its implications and consequences. In a long paragraph, he may carry out several of these processes.

In narration and description the paragraph sometimes begins with a concise, comprehensive statement serving to hold together the details that follow.

The breeze served us admirably.

The campaign opened with a series of reverses.

The next ten or twelve pages were filled with a curious set of entries.

But this device, if too often used, would become a mannerism. More commonly the opening sentence simply indicates by its subject with what the paragraph is to be principally concerned.

At length I thought I might return towards the stockade.

He picked up the heavy lamp from the table and began to explore.

Another flight of steps, and they emerged on the roof.

The brief paragraphs of animated narrative, however, are often without even this semblance of a topic sentence. The break between them serves the purpose of a rhetorical pause, throwing into prominence some detail of the action.

11 Use the active voice.

The active voice is usually more direct and vigorous than the passive:

I shall always remember my first visit to Boston.

This is much better than

My first visit to Boston will always be remembered by me.

The latter sentence is less direct, less bold, and less concise. If the writer tries to make it more concise by omitting "by me,"

My first visit to Boston will always be remembered,

it becomes indefinite: is it the writer, or some person undisclosed, or the world at large, that will always remember this visit?

More...

This rule does not, of course, mean that the writer should entirely discard the passive voice, which is frequently convenient and sometimes necessary.

The dramatists of the Restoration are little esteemed to-day.

Modern readers have little esteem for the dramatists of the Restoration.

The first would be the right form in a paragraph on the dramatists of the Restoration; the second, in a paragraph on the tastes of modern readers. The need of making a particular word the subject of the sentence will often, as in these examples, determine which voice is to be used.

The habitual use of the active voice, however, makes for forcible writing. This is true not only in narrative principally concerned with action, but in writing of any kind. Many a tame sentence of description or exposition can be made lively and emphatic by substituting a transitive in the active voice for some such perfunctory expression as there is, or could be heard.

There were a great number of dead leaves lying on the ground.

Dead leaves covered the ground.

The sound of the falls could still be heard.

The sound of the falls still reached our ears.

The reason that he left college was that his health became impaired.

Failing health compelled him to leave college.

It was not long before he was very sorry that he had said what he had.

He soon repented his words.

As a rule, avoid making one passive depend directly upon another.

Gold was not allowed to be exported.

It was forbidden to export gold (The export of gold was prohibited).

He has been proved to have been seen entering the building.

It has been proved that he was seen to enter the building.

In both the examples above, before correction, the word properly related to the second passive is made the subject of the first.

A common fault is to use as the subject of a passive construction a noun which expresses the entire action, leaving to the verb no function beyond that of completing the sentence.

A survey of this region was made in 1900.

This region was surveyed in 1900.

Mobilization of the army was rapidly carried out.

The army was rapidly mobilized.

Confirmation of these reports cannot be obtained.

These reports cannot be confirmed.

Compare the sentence, "The export of gold was prohibited," in which the predicate "was prohibited" expresses something not implied in "export."

12 Put statements in positive form.

Make definite assertions. Avoid tame, colorless, hesitating, non-committal language. Use the word not as a means of denial or in antithesis, never as a means of evasion.

He was not very often on time.

He usually came late.

He did not think that studying Latin was much use.

He thought the study of Latin useless.

The Taming of the Shrew is rather weak in spots. Shakespeare does not portray Katharine as a very admirable character, nor does Bianca remain long in memory as an important character in Shakespeare's works.

The women in *The Taming of the Shrew* are unattractive. Katharine is disagreeable, Bianca insignificant.

The last example, before correction, is indefinite as well as negative. The corrected version, consequently, is simply a guess at the writer's intention.

All three examples show the weakness inherent in the word *not*. Consciously or unconsciously, the reader is dissatisfied with being told only what is not; he wishes to be told what is. Hence, as a rule, it is better to express a negative in positive form.

More...

As a rule, it is better to express a negative in positive form.

not honest
dishonest

not important
trifling

did not remember
forgot

did not pay any attention to
ignored

did not have much confidence in
distrusted

The antithesis of negative and positive is strong:

Not charity, but simple justice.
Not that I loved Caesar less, but Rome the more.

Negative words other than *not* are usually strong:

The sun never sets upon the British flag.

13 Omit needless words.

Vigorous writing is concise. A sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a machine no unnecessary parts. This requires not that the writer make all his sentences short, or that he avoid all detail and treat his subjects only in outline, but that every word tell.

More...

Many expressions in common use violate this principle:

the question as to whether

whether (the question whether)

there is no doubt but that

no doubt (doubtless)

used for fuel purposes

used for fuel

he is a man who

he

in a hasty manner

hastily

this is a subject which

this subject

His story is a strange one.

His story is strange.

More...

In especial the expression *the fact that* should be revised out of every sentence in which it occurs.

owing to the fact that

since (because)

in spite of the fact that

though (although)

call your attention to the fact that

remind you (notify you)

I was unaware of the fact that

I was unaware that (did not know)

the fact that he had not succeeded

his failure

the fact that I had arrived

my arrival

See also under *case, character, nature, system* in Chapter V(Words).

More...

Who is, which was, and the like are often superfluous.

His brother, who is a member of the same firm

His brother, a member of the same firm

Trafalgar, which was Nelson's last battle

Trafalgar, Nelson's last battle

As positive statement is more concise than negative, and the active voice more concise than the passive, many of the examples given under Rules 11 and 12 illustrate this rule as well.

A common violation of conciseness is the presentation of a single complex idea, step by step, in a series of sentences which might to advantage be combined into one.

Macbeth was very ambitious. This led him to wish to become king of Scotland. The witches told him that this wish of his would come true. The king of Scotland at this time was Duncan. Encouraged by his wife, Macbeth murdered Duncan. He was thus enabled to succeed Duncan as king. (55 words.)

Encouraged by his wife, Macbeth achieved his ambition and realized the prediction of the witches by murdering Duncan and becoming king of Scotland in his place. (26 words.)

14 Avoid a succession of loose sentences.

This rule refers especially to loose sentences of a particular type, those consisting of two co-ordinate clauses, the second introduced by a conjunction or relative. Although single sentences of this type may be unexceptionable (see under Rule 4), a series soon becomes monotonous and tedious.

An unskillful writer will sometimes construct a whole paragraph of sentences of this kind, using as connectives *and*, *but*, and less frequently, *who*, *which*, *when*, *where*, and *while*, these last in non-restrictive senses (see under Rule 3).

The third concert of the subscription series was given last evening, and a large audience was in attendance. Mr. Edward Appleton was the soloist, and the Boston Symphony Orchestra furnished the instrumental music. The former showed himself to be an artist of the first rank, while the latter proved itself fully deserving of its high reputation. The interest aroused by the series has been very gratifying to the Committee, and it is planned to give a similar series annually hereafter. The fourth concert will be given on Tuesday, May 10, when an equally attractive programme will be presented.

Apart from its triteness and emptiness, the paragraph above is bad because of the structure of its sentences, with their mechanical symmetry and sing-song. Contrast with them the sentences in the paragraphs quoted under Rule 10, or in any piece of good English prose, as the preface (Before the Curtain) to *Vanity Fair*.

If the writer finds that he has written a series of sentences of the type described, he should recast enough of them to remove the monotony, replacing them by simple sentences, by sentences of two clauses joined by a semicolon, by periodic sentences of two clauses, by sentences, loose or periodic, of three clauses--whichever best represent the real relations of the thought.

15 Express co-ordinate ideas in similar form.

This principle, that of parallel construction, requires that expressions of similar content and function should be outwardly similar. The likeness of form enables the reader to recognize more readily the likeness of content and function. Familiar instances from the Bible are the Ten Commandments, the Beatitudes, and the petitions of the Lord's Prayer.

The unskillful writer often violates this principle, from a mistaken belief that he should constantly vary the form of his expressions. It is true that in repeating a statement in order to emphasize it he may have need to vary its form. For illustration, see the paragraph from Stevenson quoted under Rule 10. But apart from this, he should follow the principle of parallel construction.

Formerly, science was taught by the textbook method, while now the laboratory method is employed.

Formerly, science was taught by the textbook method; now it is taught by the laboratory method.

The left-hand version gives the impression that the writer is undecided or timid; he seems unable or afraid to choose one form of expression and hold to it. The right-hand version shows that the writer has at least made his choice and abided by it.

By this principle, an article or a preposition applying to all the members of a series must either be used only before the first term or else be repeated before each term.

The French, the Italians, Spanish, and Portuguese

The French, the Italians, the Spanish, and the Portuguese

In spring, summer, or in winter

In spring, summer, or winter (In spring, in summer, or in winter)

More...

Correlative expressions (*both, and; not, but; not only, but also; either, or; first, second, third;* and the like) should be followed by the same grammatical construction. Many violations of this rule can be corrected by rearranging the sentence.

It was both a long ceremony and very tedious.

The ceremony was both long and tedious.

A time not for words, but action

A time not for words, but for action

Either you must grant his request or incur his ill will.

You must either grant his request or incur his ill will.

My objections are, first, the injustice of the measure; second, that it is unconstitutional.

My objections are, first, that the measure is unjust; second, that it is unconstitutional.

See also the third example under [Rule 12](#) and the last under [Rule 13](#).

It may be asked, what if a writer needs to express a very large number of similar ideas, say twenty? Must he write twenty consecutive sentences of the same pattern? On closer examination he will probably find that the difficulty is imaginary, that his twenty ideas can be classified in groups, and that he need apply the principle only within each group. Otherwise he had best avoid the difficulty by putting his statements in the form of a table.

16 Keep related words together.

The position of the words in a sentence is the principal means of showing their relationship. The writer must therefore, so far as possible, bring together the words, and groups of words, that are related in thought, and keep apart those which are not so related.

The subject of a sentence and the principal verb should not, as a rule, be separated by a phrase or clause that can be transferred to the beginning.

Wordsworth, in the fifth book of *The Excursion*, gives a minute description of this church.

In the fifth book of *The Excursion*, Wordsworth gives a minute description of this church.

Cast iron, when treated in a Bessemer converter, is changed into steel.

By treatment in a Bessemer converter, cast iron is changed into steel.

More...

The objection is that the interposed phrase or clause needlessly interrupts the natural order of the main clause. This objection, however, does not usually hold when the order is interrupted only by a relative clause or by an expression in apposition. Nor does it hold in periodic sentences in which the interruption is a deliberately used means of creating suspense (see examples under Rule 18).

The relative pronoun should come, as a rule, immediately after its antecedent.

There was a look in his eye that boded mischief.

In his eye was a look that boded mischief.

He wrote three articles about his adventures in Spain, which were published in *Harper's Magazine*.

He published in *Harper's Magazine* three articles about his adventures in Spain.

This is a portrait of Benjamin Harrison, grandson of William Henry Harrison, who became President in 1889.

This is a portrait of Benjamin Harrison, grandson of William Henry Harrison. He became President in 1889.

More...

If the antecedent consists of a group of words, the relative comes at the end of the group, unless this would cause ambiguity.

The Superintendent of the Chicago Division, who

A proposal to amend the Sherman Act, which has been variously judged

A proposal, which has been variously judged, to amend the Sherman Act

A proposal to amend the much-debated Sherman Act

The grandson of William Henry Harrison, who

William Henry Harrison's grandson, Benjamin Harrison, who

More...

A noun in apposition may come between antecedent and relative, because in such a combination no real ambiguity can arise.

The Duke of York, his brother, who was regarded with hostility by the Whigs

Modifiers should come, if possible next to the word they modify. If several expressions modify the same word, they should be so arranged that no wrong relation is suggested.

All the members were not present.

Not all the members were present.

He only found two mistakes.

He found only two mistakes.

Major R. E. Joyce will give a lecture on Tuesday evening in Bailey Hall, to which the public is invited, on "My Experiences in Mesopotamia" at eight P. M.

On Tuesday evening at eight P. M., Major R. E. Joyce will give in Bailey Hall a lecture on "My Experiences in Mesopotamia." The public is invited.

17 In summaries, keep to one tense.

In summarizing the action of a drama, the writer should always use the present tense. In summarizing a poem, story, or novel, he should preferably use the present, though he may use the past if he prefers. If the summary is in the present tense, antecedent action should be expressed by the perfect; if in the past, by the past perfect.

An unforeseen chance prevents Friar John from delivering Friar Lawrence's letter to Romeo. Juliet, meanwhile, owing to her father's arbitrary change of the day set for her wedding, has been compelled to drink the potion on Tuesday night, with the result that Balthasar informs Romeo of her supposed death before Friar Lawrence learns of the non-delivery of the letter.

But whichever tense be used in the summary, a past tense in indirect discourse or in indirect question remains unchanged.

The Legate inquires who struck the blow.

Apart from the exceptions noted, whichever tense the writer chooses, he should use throughout. Shifting from one tense to the other gives the appearance of uncertainty and irresolution (compare Rule 15).

More...

In presenting the statements or the thought of some one else, as in summarizing an essay or reporting a speech, the writer should avoid intercalating such expressions as "he said," "he stated," "the speaker added," "the speaker then went on to say," "the author also thinks," or the like. He should indicate clearly at the outset, once for all, that what follows is summary, and then waste no words in repeating the notification.

In notebooks, in newspapers, in handbooks of literature, summaries of one kind or another may be indispensable, and for children in primary schools it is a useful exercise to retell a story in their own words. But in the criticism or interpretation of literature the writer should be careful to avoid dropping into summary. He may find it necessary to devote one or two sentences to indicating the subject, or the opening situation, of the work he is discussing; he may cite numerous details to illustrate its qualities. But he should aim to write an orderly discussion supported by evidence, not a summary with occasional comment. Similarly, if the scope of his discussion includes a number of works, he will as a rule do better not to take them up singly in chronological order, but to aim from the beginning at establishing general conclusions.

18 Place the emphatic words of a sentence at the end.

The proper place for the word, or group of words, which the writer desires to make most prominent is usually the end of the sentence.

Humanity has hardly advanced in fortitude since that time, though it has advanced in many other ways.

Humanity, since that time, has advanced in many other ways, but it has hardly advanced in fortitude.

This steel is principally used for making razors, because of its hardness.

Because of its hardness, this steel is principally used in making razors.

The word or group of words entitled to this position of prominence is usually the logical predicate, that is, the *new* element in the sentence, as it is in the second example.

The effectiveness of the periodic sentence arises from the prominence which it gives to the main statement.

Four centuries ago, Christopher Columbus, one of the Italian mariners whom the decline of their own republics had put at the service of the world and of adventure, seeking for Spain a westward passage to the Indies as a set-off against the achievements of Portuguese discoverers, lighted on America.

With these hopes and in this belief I would urge you, laying aside all hindrance, thrusting away all private aims, to devote yourselves unswervingly and unflinchingly to the vigorous and successful prosecution of this war.

The other prominent position in the sentence is the beginning. Any element in the sentence, other than the subject, becomes emphatic when placed first.

Deceit or treachery he could never forgive.

So vast and rude, fretted by the action of nearly three thousand years, the fragments of this architecture may often seem, at first sight, like works of nature.

A subject coming first in its sentence may be emphatic, but hardly by its position alone. In the sentence,

Great kings worshipped at his shrine,

the emphasis upon *kings* arises largely from its meaning and from the context. To receive special emphasis, the subject of a sentence must take the position of the predicate.

Through the middle of the valley flowed a winding stream.

The principle that the proper place for what is to be made most prominent is the end applies equally to the words of a sentence, to the sentences of a paragraph, and to the paragraphs of a composition.

Headings.

Leave a blank line, or its equivalent in space, after the title or heading of a manuscript. On succeeding pages, if using ruled paper, begin on the first line.

Numerals.

Do not spell out dates or other serial numbers. Write them in figures or in Roman notation, as may be appropriate.

August 9, 1918

Rule 3

Chapter XII

352d Infantry

Parentheses.

A sentence containing an expression in parenthesis is punctuated, outside of the marks of parenthesis, exactly as if the expression in parenthesis were absent. The expression within is punctuated as if it stood by itself, except that the final stop is omitted unless it is a question mark or an exclamation point.

I went to his house yesterday (my third attempt to see him), but he had left town.

He declares (and why should we doubt his good faith?) that he is now certain of success.

(When a wholly detached expression or sentence is parenthesized, the final stop comes before the last mark of parenthesis.)

Quotations.

Formal quotations, cited as documentary evidence, are introduced by a colon and enclosed in quotation marks.

The provision of the Constitution is: "No tax or duty shall be laid on articles exported from any state."

Quotations grammatically in apposition or the direct objects of verbs are preceded by a comma and enclosed in quotation marks.

I recall the maxim of La Rochefoucauld, "Gratitude is a lively sense of benefits to come."

Aristotle says, "Art is an imitation of nature."

More...

Quotations of an entire line, or more, of verse, are begun on a fresh line and centered, but not enclosed in quotation marks.

Wordsworth's enthusiasm for the Revolution was at first unbounded:
Bliss was it in that dawn to be alive,
But to be young was very heaven!

Quotations introduced by *that* are regarded as in indirect discourse and not enclosed in quotation marks.

Keats declares that beauty is truth, truth beauty.

Proverbial expressions and familiar phrases of literary origin require no quotation marks.

These are the times that try men's souls.
He lives far from the madding crowd.

The same is true of colloquialisms and slang.

References.

In scholarly work requiring exact references, abbreviate titles that occur frequently, giving the full forms in an alphabetical list at the end. As a general practice, give the references in parenthesis or in footnotes, not in the body of the sentence. Omit the words *act*, *scene*, *line*, *book*, *volume*, *page*, except when referring by only one of them. Punctuate as indicated below.

In the second scene of the third act

In III.ii (still better, simply insert III.ii in parenthesis at the proper place in the sentence)

After the killing of Polonius, Hamlet is placed under guard (IV. ii. 14).

2 *Samuel* i:17-27

Othello II.iii 264-267, III.iii. 155-161

Titles.

For the titles of literary works, scholarly usage prefers italics with capitalized initials. The usage of editors and publishers varies, some using italics with capitalized initials, others using Roman with capitalized initials and with or without quotation marks. Use italics (indicated in manuscript by underscoring), except in writing for a periodical that follows a different practice. Omit initial *A* or *The* from titles when you place the possessive before them.

The Iliad; *the Odyssey*; *As You Like It*; *To a Skylark*; *The Newcomes*; *A Tale of Two Cities*; *Dicken's Tale of Two Cities*.



States

State	Capital	Year	Time	ZIP
<u>Alabama</u>	AL Montgomery	1819(22)	Ctrl.	350nn - 352nn, 354nn - 369nn
<u>Alaska</u>	AK Juneau	1959(49)	AK	995nn - 999nn
<u>Arizona</u>	AZ Phoenix	1912(48)	Mtn.	850nn, 852nn - 853nn, 855nn - 857nn, 859nn - 860nn, 863nn - 865nn
<u>Arkansas</u>	AR Little Rock	1836(25)	Ctrl.	716nn - 729nn
<u>California</u>	CA Sacramento	1850(31)	Pac.	900nn, 902nn - 908nn, 910nn - 928nn, 930nn - 961nn
<u>Colorado</u>	CO Denver	1876(38)	Mtn.	800nn - 816nn
<u>Connecticut</u>	CT Hartford	1788(5)	East	060nn - 069nn
<u>Delaware</u>	DE Dover	1787(1)	East	197nn - 199nn
<u>Florida</u>	FL Tallahassee	1845(27)	East	320nn - 340nn, 342nn, 344nn, 346nn - 347nn, 349nn
<u>Georgia</u>	GA Atlanta	1788(4)	East	300nn, 319nn, 399nn
<u>Hawaii</u>	HI Honolulu	1959(50)	AL	967nn - 968nn
<u>Idaho</u>	ID Boise	1890(43)	Mtn.	832nn - 838nn
<u>Illinois</u>	IL Springfield	1818(21)	Ctrl.	600nn - 607nn, 609nn - 620nn, 622nn - 629nn
<u>Indiana</u>	IN Indianapolis	1816(19)	East	460nn - 479nn
<u>Iowa</u>	IA Des Moines	1846(29)	Ctrl.	500nn - 528nn
<u>Kansas</u>	KS Topeka	1861(34)	Ctrl.	660nn - 662nn, 664nn - 679nn
<u>Kentucky</u>	KY Frankfort	1792(15)	East	400nn - 418nn, 420nn - 427nn
<u>Louisiana</u>	LA Baton Rouge	1812(18)	Ctrl.	700nn - 701nn, 703nn - 708nn, 710nn - 714nn
<u>Maine</u>	ME Augusta	1820(23)	East	040nn - 049nn
<u>Maryland</u>	MD Annapolis	1788(7)	East	206nn - 212nn, 214nn - 219nn
<u>Massachusetts</u>	MA Boston	1788(6)	East	010nn - 027nn, 055nn
<u>Michigan</u>	MI Michigan	1837(26)	East	480nn - 499nn
<u>Minnesota</u>	MN St. Paul	1858(32)	Ctrl.	550nn - 551nn, 553nn - 567nn
<u>Mississippi</u>	MS Jackson	1817(20)	Ctrl.	386nn - 397nn
<u>Missouri</u>	MO Jefferson City	1821(24)	Ctrl.	630nn - 631nn, 633nn - 641nn, 644nn - 658nn
<u>Montana</u>	MT Helena	1899(41)	Mtn.	590nn - 599nn
<u>Nebraska</u>	NE Lincoln	1867(37)	Ctrl.	680nn - 681nn, 683nn - 693nn
<u>Nevada</u>	NV Carson City	1864(36)	Pac.	889nn - 891nn, 893nn - 895nn, 897nn - 898nn
<u>New Hampshire</u>	NH Concord	1788(9)	East	030nn - 039nn
<u>New Jersey</u>	NJ Trenton	1787(3)	East	070nn - 089nn
<u>New Mexico</u>	NM Santa Fe	1912(47)	Mtn.	870nn - 875nn, 877nn - 884nn
<u>New York</u>	NY Albany	1788(11)	East	004nn - 005nn, 100nn - 149nn
<u>North Carolina</u>	NC Raleigh	1789(12)	East	270nn - 289nn
<u>North Dakota</u>	ND Bismarck	1889(39)	Ctrl.	580nn - 588nn
<u>Ohio</u>	OH Columbus	1803(17)	East	430nn - 459nn
<u>Oklahoma</u>	OK Oklahoma City	1907(46)	Ctrl.	730nn - 731nn, 734nn - 741nn, 743nn - 749nn
<u>Oregon</u>	OR Salem	1859(33)	Pac.	970nn - 979nn
<u>Pennsylvania</u>	PA Harrisburg	1787(2)	East	150nn - 196nn

<u>Rhode Island</u>	RI	Providence	1790(13)	East	028nn - 029nn
<u>South Carolina</u>	SC	Columbia	1788(8)	East	290nn - 299nn
<u>South Dakota</u>	SD	Pierre	1889(40)	Ctrl.	570nn - 577nn
<u>Tennessee</u>	TN	Nashville	1796(16)	Ctrl.	370nn - 385nn
<u>Texas</u>	TX	Austin	1845(28)	Ctrl.	733nn, 750nn - 799nn, 885nn
<u>Utah</u>	UT	Salt Lake City	1896(45)	Mtn.	840nn - 847nn
<u>Vermont</u>	VT	Montpelier	1791(14)	East	050nn - 054nn, 056nn - 059nn
<u>Virginia</u>	VA	Virginia	1788(10)	East	220nn - 246nn
<u>Washington</u>	WA	Olympia	1889(42)	Pac.	980nn - 994nn
<u>West Virginia</u>	WV	Charleston	1863(35)	East	247nn - 268nn
<u>Wisconsin</u>	WI	Madison	1848(30)	Ctrl.	530nn - 532nn, 534nn - 535nn, 537nn - 549nn
<u>Wyoming</u>	WY	Cheyenne	1890(44)	Mtn.	820nn - 831nn

American Samoa	AS	Pago Pago	.	.	96799
Arm. Forces Americas	AA	APO Miami	.	.	34001 - 34099
Armed Forces Europe	AE	APO New York	.	.	090nn - 098nn
Armed Forces Pacific	AP	APO San Francisco	.	.	962nn - 965nn, 96201 - 96698, 966nn
<u>District of Columbia</u>	DC	.	1790	East	200nn, 202nn - 205nn
Federated Micronesia	FM	Kolonia (Pohnpei Isl.)	.	.	96941-96944
Guam	GU	Agana	.	+10	969nn
Marshall Islands	MH	Majuro	.	.	96960-96970
Northern Mariana Isl.	MP	Saipan	.	.	96950-96952
Palau Islands	PW	Koror	.	+9	96940
Puerto Rico	PR	San Juan	.	-4	006nn - 007nn, 009nn
US Virgin Islands	VI	Charlotte Amalie	.	.	008nn

Alberta	AB	Edmonton	.	Mtn.	
British Columbia	BC	Vancouver, Victoria	.	Pac.	
Manitoba	MB	Winnipeg	.	Ctrl.	
New Brunswick	NB	Fredericton	.		
Newfoundland	NF	St. John's	.	East	
Nova Scotia	NS	Halifax	.	-4	
Ontario	ON	Toronto	.	East	
Prince Edward Island	PE	Charlottetown	.		
Quebec	PQ	Quebec	.	East	
Saskatchewan	SK	Regina	.	Ctrl.	
Mexico	MX	Mexico City	.	.	

Year = Year admitted to union (order of admission to union).

Time = Time Zone

- AK = Alaska (GMT - 9:00)
- AL = Aleutian (GMT - 10:00)
- Ctrl. = Central (GMT - 6:00)
- East = Eastern (GMT - 5:00)
- Mtn. = Mountain (GMT - 7:00)
- Pac. = Pacific (GMT - 8:00)

ZIP = ZIP code range. Data is derived from "Domestic Mail Services, Exhibit 122.63" 12-20-92.

Click state names for additional information.



51,609 square miles (133,677 sq. km)
Motto: We Dare Defend Our Rights
Nicknames: Heart of Dixie; Camellia State

586,412 square miles (1,518,800 sq. km)
Motto: North to the Future
Nickname: The Last Frontier

113,909 square miles (295,024 sq. km)

Motto: *Diat Deus* (God Enriches)

Nicknames: Grand Canyon State; Copper State

53,104 square miles (137,539 sq. km)
Motto: *Regnat Populus* (The People Rule)
Nickname: Land of Opportunity

158,693 square miles (411,015 sq. km)
Motto: *Eureka* (I Have Found It)
Nickname: Golden State

104,247 square miles (270,000 sq. km)

Motto: *Nil sine numine* (Nothing Without Providence)

Nickname: Centennial State

5,009 square miles (12,973 sq. km)

Motto: *Qui transtulit sustinet* (He Who Transplanted Still Sustains)

Nicknames: Constitution State; Nutmeg State

2,057 square miles (5,328 sq. km)
Motto: Liberty and Independence
Nicknames: First State; Diamond State

58,560 square miles (151,670 sq. km)
Motto: In God We Trust
Nickname: Sunshine State

58,876 square miles (152,489 sq. km)
Motto: Wisdom, Justice, and Moderation
Nickname: Empire State of the South

6,450 square miles (16,706 sq. km)

Motto: The Life of the Land is Perpetuated in Righteousness

Nickname: Aloha State

83,557 square miles (216,413 sq. km)
Motto: *Esto perpetua* (It is perpetual)
Nickname: Gem State

56,400 square miles (146,076 sq. km)

Motto: State sovereignty—National Union

Nicknames: Land of Lincoln; Inland Empire; Prairie State

36,291 square miles (93,994 sq. km)
Motto: Crossroads of America
Nickname: Hoosier State

56,290 square miles (145,791 sq. km)

Motto: Our Liberties We Prize and Our Rights We Will Maintain

Nickname: Hawkeye State

82,264 square miles (213,064 sq. km)

Motto: *Ad astra per aspera* (To the Stars Through Difficulties)

Nickname: Sunflower State

40,395 square miles (104,623 sq. km)
Motto: United We Stand, Divided We Fall
Nickname: Bluegrass State

48,523 square miles (125,675 sq. km)
Motto: Union, Justice and Confidence
Nickname: Pelican State

33,215 square miles (86,027 sq. km)
Motto: *Dirigo* (I Direct)
Nickname: Pine Tree State

10,577 square miles (27,394 sq. km)

Motto: ...*Fatti maschii, parole femine* (Manly Deeds, Womanly Words)

Nicknames: Old Line State; Free State

8,257 square miles (21,386 sq. km)

Motto: *Ense petit placidam sub liberate quietem* (By The Sword We Seek Peace, But Peace Only Under Liberty)

Nicknames: Bay State; Colony State

58,216 square miles (150,779 sq. km)

Motto: *Si quaeris peninsulam amoenam circumspice* (If you seek a pleasant Peninsula, look about you)

Nicknames: Wolverine State; Great Lake State

84,068 square miles (217,736 sq. km)

Motto: *L'Etoile du nord* (Star of the North)

Nicknames: North Star State; Gopher State

47,716 square miles (123,584 sq. km)

Motto: *Virtute et armis* (By Valor and Arms)

Nickname: Magnolia State

69,686 square miles (180,487 sq. km)

Motto: *Salus populi suprema lex esto* (The Welfare of The People Shall be the Supreme Law)

Nickname: Show-Me State

147,138 square miles (381,087 sq. km)
Motto: *Oro y plata* (Gold and Silver)
Nickname: Treasure State

77,227 square miles (200,018 sq. km)
Motto: Equality Before the Law
Nickname: Cornhusker State

110,540 square miles (286,299 sq. km)

Motto: All for Our Country

Nicknames: Silver State; Sagebrush State; Battle-Born State

9,304 square miles (24,097 sq. km)
Motto: Live free or die
Nickname: Granite State

7,836 square miles (20,295 sq. km)
Motto: Liberty and prosperity
Nickname: Garden State

121,666 square miles (315,115 sq. km)

Motto: *Crescit eundo* (It Grows as It Goes)

Nickname: Land of Enchantment

49,576 square miles (128,402 sq. km)
Motto: Excelsior (Ever upward)
Nickname: Empire State

52,586 square miles (136,198 sq. km)

Motto: *Esse quam videri* (To be rather than to seem)

Nicknames: Tar Heel State; Old North State

70,665 square miles (183,022 sq. km)

Motto: Liberty and union, now and forever, one and inseparable

Nicknames: Sioux State; Flickertail State; Peace Garden State

41,222 square miles (106,765 sq. km)
Motto: With God, All Things Are Possible
Nickname: Buckeye State

69,919 square miles (181,090 sq. km)
Motto: *Labor omnia vincit* (Labor Conquers All Things)
Nickname: Sooner State

96,981 square miles (251,181 sq. km)
Motto: The Union
Nickname: Beaver State

45,333 square miles (117,412 sq. km)
Motto: Virtue, Liberty and Independence
Nickname: Keystone State

1,214 square miles (3,144 sq. km)

Motto: Hope

Nicknames: Little Rhody; Ocean State

31,055 square miles (80,432 sq. km)

Motto: *Dum spiro spero* (While I breathe, I hope)

Nickname: Palmetto State

77,047 square miles (199,552 sq. km)
Motto: Under God, the People Rule
Nicknames: Coyote State; Sunshine State

42,244 square miles (109,412 sq. km)
Motto: Agriculture and Commerce
Nickname: Volunteer State

267,338 square miles (692,405 sq. km)
Motto: Friendship
Nickname: Lone Star State

84,916 square miles (219,932 sq. km)
Motto: Industry
Nickname: Beehive State

9,609 square miles (24,887 sq. km)
Motto: Freedom and Unity
Nickname: Green Mountain State

40,817 square miles (105,716 sq. km)
Motto: *Sic semper tyrannis* (Thus Always to Tyrants)
Nickname: Old Dominion

68,192 square miles (176,617 sq. km)
Motto: *Alki* (By and by)
Nickname: Evergreen State

24,181 square miles (62,629 sq. km)

Motto: *Montani semper liberi* (Mountaineers are Always Free)

Nickname: Mountain State

56,154 square miles (145,439 sq. km)
Motto: Forward
Nickname: Badger State

97,914 square miles (253,597 sq. km)
Motto: Equal Rights
Nickname: Equality State

70 square miles (180 sq. km)
Motto: *Justitia Omnibus* (Justice for All)
Nickname: Capital City



ASCIIcat

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P. O. Box 5695

Glendale AZ 85312, USA

Release 5.5, July 30, 1998

• For the latest release, visit the home page:

http://ourworld.compuserve.com/homepages/r_harvey



Notes

Thank you for using this book. You may continue to use this book as long as you like without charge, if you agree to pop-in to the home page every now and again to look for new stuff. That is your fee—you must stop by again.

If anybody asks you for a copy of this help file, please tell them to visit the home page and get their own, thank you. Besides, they're likely to get a later, better version than the one you have if they go get their own. And while they're at the home page, they'll probably find something very cool that they really can't live without.

- This book is frequently updated. Stop by the home page now and again to get the latest edition. Select Help, "About ASCIIcat..." to see the publication date. If it's a few months old, stop by for an updated release. The release version number is for your convenience; whole-number updates mark major enhancements, fractional updates are small additions or corrections.
- You can browse through this book page-by-page by pressing the < and > keys on the keyboard or the << and >> buttons at the top of the page. Click the > icon in the top-left corner of each page for the pop-up Contents list.
- Click the big blue [A](#) at the top of the page to see a pop-up ANSI character chart. Calculate any character code by adding the value in the left to the value at the top of the column. For example, the letter H is in the 70 row in the 2 column, which totals 72.
- This is high-density information. Lists serve several purposes—there are only as many pages as necessary. These lists are designed to be viewed in a narrow window. Scrunch it up, leave it on the screen, and switch to it at a moment's notice.
- See [ASCII.CAT.TXT](#) for additional information.
- If you like this book, it would be nice if you would send a postcard or letter to suggest additions and to say thanks. Paper is much more appreciated than e-mail.
- The rabbit-like icon is a three-dimensional representation of an Esquilax. An Esquilax is a legendary horse, with the head of a rabbit, and the body of a rabbit. The running Esquilax has been our logo since 1983.

Content Notes

- Percentages in [Character Converter](#) are helpful in converting colors between HTML (RGB hex-triplet) and graphic program displays. Web-safe 212 colors use color values of 0% (00h), 20% (33h), 40% (66h), 60% (99h), 80% (CCh) and 100% (FFh). Most fonts do not support characters 0-31.
- Codepage 437 and 850 character sets are emulated using ANSI characters, the Symbol font, and pictures. The Symbol and Wingdings fonts are furnished with Windows 3.1 and later.
- ANSI characters 145-146 were added in Windows 3.0 Other characters 130-159 were added in Windows 3.1.



-  The Euro currency symbol, at character position 128, is available in standard fonts supplied with Windows 98, Windows NT 5, and later operating systems. Supported by Codepage 874, 1250, 1252, 1254, 1255, 1256, 1257, 1258. Codepage 1251 places the Euro symbol at character position 136.

- DOS line drawing characters, shown on the [Fonts & Pixels](#) page, are supported by most DOS character sets. For compatibility with more Codepages, use only single- or double-line boxes (the two leftmost illustrations). Avoid the mixed single- and double-line box characters.
 - The height of a font is the point size plus spacing between lines. Called *leading* (pronounced ledding, after the lead typesetters used to place between lines of text), this extra space keeps lines of text from running-together. Most word processors add leading of approximately 20-percent of the font height. For instance, a 10-point font usually has two points of leading.
 - For Windows color programming and illustrating, stick with [Windows Colors](#) for smooth reproduction on any display. These colors can all be smoothly dithered from just two of the standard 16 Windows colors. For compatibility, use only these colors in WMF (Windows meta-files). View that page in 16- or 256-color mode to see the effect of dithering. Note that some similar-looking colors not in this list may be displayed as gray or pure colors—be careful with other colors! These are Windows-compatible colors, not Internet colors. See [HTMLcat](#) for swatches of Web-safe colors.
 - For Macintosh help file compatibility, avoid using non-ANSI characters or any characters on the [Character Sets](#) page that are highlighted in a different color.
 - The [Elements of Style](#) page is based on the 1918 edition, by William Strunk, Jr. The book is all on one page; click a topic to see the text. For simplicity, we have converted some topics into multiple sub-topics. Two outdated chapters have been removed; see [Words](#) for current information.
 - The Windows 3.1 help viewer recognizes Courier, Courier New, Helv, MS Sans Serif, MS Serif, Arial, Symbol, Times New Roman, and Tms Rmn. Any other fonts are shown as the default font. You can use other fonts in help files, such as we have done in this help file, but they display correctly only in later help viewers.
 - Help compiler versions earlier than 4.0 don't recognize the RTF mnemonics Word for Windows uses for characters 145-151, so those characters are ignored.

This book is called ASCIIcat because it was originally primarily a character conversion table. Named for [ASCII](#); the Cat means that it is one of our online reference catalogs, like [HTMLcat](#). HTMLcat is an extensive reference of HTML information.

Web site

http://ourworld.compuserve.com/homepages/r_harvey

While you're at the web site, try HTMLcat. Take ASCIIcat, multiply it by 200, add a year of development, and make it just about HTML and styles. That's what you will find in HTMLcat.

HTMLcat is an extensive reference of HTML tags and a tutorial about writing Internet documents. Incredibly complete and *fun* to use.

- Written for designers and writers, not just for computer programmers. It's for professionals who want to create attractive, useful, intelligible documents.
- Designed for quick, flexible navigation. A catalog with several ways to browse. Simple, logical, sequential design.
- Topics are arranged consistently, beginning with simple descriptions and increasing levels of detail.
- Just as many words as necessary—no more, no fewer. We're offering ideas, not words.

- Icons with pop-up lists of related topics.
- Documents 126 common and uncommon HTML tags.
- Describes 132 style attributes.
- More than 2,600 graphics and illustrations.
- Topic links, cross-references, and more links—more than 7,000 hyper-links—guide you between topics.
- Tons of tips about compatibility, which tags to use (and which to avoid), and for getting the most from the simplest documents.
- Faster and easier to use one Windows help file to look-up HTML information than to search giant HTML files or outdated ink-on-paper books.
- Tutorials about writing HTML documents, graphics, fonts, style sheets.
- Complete HTML color swatches—with color names and color values. Click a color to copy the HTML codes for the color to the Windows Clipboard.
- High-resolution, high-quality vector drawing illustrations.
- Context-sensitive pop-up topic lists. You'll have to try this to see how easy it is to navigate through hundreds of links with one small dialog box.
- Pop-up lists. Special characters, boilerplate HTML codes, and URL addresses.
- Click an HTML example or URL to copy it to the clipboard.
- Example documents and cascading style sheets.
- HTMLcat is the only Windows help file that does multiple windows correctly. No windows jumping around and popping-up in unexpected places.
- Efficient design results in a surprisingly small book.
- It's a CD-ROM worth of reference without the CD. It's a virtual 900 page coffee table book.

HTMLcat is the coolest way to wend your way through this tenebrous task. It would be impossible to duplicate this usability on paper. Even if you don't care about HTML, have a look at HTMLcat to see how Windows Help files should work. It's one of the most original, innovative, and ambitious help files ever written.

Download HTMLcat

http://ourworld.compuserve.com/homepages/r_harvey/htmlcat.htm

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Payment



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If anybody asks you for a copy of this help file, please tell them to visit the home page and get their own, thank you. Besides, they're likely to get a later, better version than the one you have if they go get their own. And while they're at the home page, they'll probably find something very cool that they really can't live without.

Web site

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ASCII

Acronym for American Standard Code for Information Interchange. ASCII codes use an 8-bit value to represent characters. The Standard ASCII character set uses the first 128 values (0-127). The characters represented by high-order numbers (128-255) are dependent on the computer type; for IBM-PC compatibles, these are called PC-8 or code page 437 (English). In Windows, a common character set is ISO-1250, or often simply called ANSI.

ANSI Characters

	0	1	2	3	4	5	6	7	8	9
30				!	"	#	\$	%	&	'
40	()	*	+	,	-	.	/	0	1
50	2	3	4	5	6	7	8	9	:	;
60	<	=	>	?	@	A	B	C	D	E
70	F	G	H	I	J	K	L	M	N	O
80	P	Q	R	S	T	U	V	W	X	Y
90	Z	[\]	^	_	`	a	b	c
100	d	e	f	g	h	i	j	k	l	m
110	n	o	p	q	r	s	t	u	v	w
120	x	y	z	{		}	~	□	€	□
130	,	f	„	…	†	‡	ˆ	%	Š	<
140	Œ	□	Ž	□	□	·	,	“	”	•
150	-	—	˜	™	š	>	œ	□	ž	ÿ
160		ı	ç	£	¤	¥	¦	§	¨	©
170	ª	«	¬	®	¯	°	±	²	³	
180	´	µ	¶	·	¸	¹	º	»	¼	½
190	¾	¿	À	Á	Â	Ã	Ä	Å	Æ	Ç
200	È	É	Ê	Ë	Ì	Í	Î	Ï	Ð	Ñ
210	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û
220	Ü	Ý	Þ	ß	à	á	â	ã	ä	å
230	æ	ç	è	é	ê	ë	ì	í	î	ï
240	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù
250	ú	û	ü	ý	þ	ÿ				

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