



ASCII and Extended IBM Codes

This appendix presents the ASCII, Extended IBM Graphic, and the Extended-IBM Function Key codes. In the tables, a ^ represents the Control (Ctrl) key. For example, ^C represents Ctrl-C.

ASCII Codes

The codes for the American Standard Code for Information Interchange (ASCII) are presented in the following table:

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>	<i>ASCII Meaning</i>
0	0	0	00000000		^@ NUL (null)
1	1	1	00000001	⊙	^A SOH (start-of-header)
2	2	2	00000010	●	^B STX (start-of-transmission)
3	3	3	00000011	▼	^C ETX (end-of-transmission)
4	4	4	00000100	◆	^D EOT (end-of-text)
5	5	5	00000101	♣	^E ENQ (enquiry)
6	6	6	00000110	♠	^F ACK (acknowledge)
7	7	7	00000111	·	^G BEL (bell)
8	8	10	00001000	■	^H BS (backspace)
9	9	11	00001001	◦	^I HT (horizontal tab)
10	A	12	00001010	■	^J LF (line feed - also ^Enter)
11	B	13	00001011	◌	^K VT (vertical tab)
12	C	14	00001100	◊	^L FF (form feed)
13	D	15	00001101	⌞	^M CR (carriage return)
14	E	16	00001110	♠	^N SO

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>	<i>ASCII Meaning</i>
15	F	17	00001111	⊛	^O SI
16	10	20	00010000	-	^P DLE
17	11	21	00010001	-	^Q DC1
18	12	22	00010010	!	^R DC2
19	13	23	00010011	"	^S DC3
20	14	24	00010100	π	^T DC4
21	15	25	00010101	\$	^U NAK
22	16	26	00010110	-	^V SYN
23	17	27	00010111	↑	^W ETB
24	18	30	00011000	↑	^X CAN (cancel)
25	19	31	00011001	↓	^Y EM
26	1A	32	00011010	→	^Z SUB (also end-of-file)
27	1B	33	00011011	←	^[ESC (Escape)
28	1C	34	00011100	⌊	^\ FS (field separator)
29	1D	35	00011101	↔	^] GS
30	1E	36	00011110	▲	^^ RS (record separator)
31	1F	37	00011111	▼	^_ US
32	20	40	00100000		Space
33	21	41	00100001	!	!
34	22	42	00100010	"	"
35	23	43	00100011	#	#
36	24	44	00100100	\$	\$
37	25	45	00100101	%	%
38	26	46	00100110	&	&
39	27	47	00100111	,	,
40	28	50	00101000	((
41	29	51	00101001))
42	2A	52	00101010	*	*
43	2B	53	00101011	+	+
44	2C	54	00101100	,	,
45	2D	55	00101101	-	-
46	2E	56	00101110	.	.
47	2F	57	00101111	/	/
48	30	60	00110000	0	0
49	31	61	00110001	1	1
50	32	62	00110010	2	2
51	33	63	00110011	3	3
52	34	64	00110100	4	4
53	35	65	00110101	5	5
54	36	66	00110110	6	6
55	37	67	00110111	7	7
56	38	70	00111000	8	8
57	39	71	00111001	9	9
58	3A	72	00111010	:	:
59	3B	73	00111011	;	;
60	3C	74	00111100	<	<
61	3D	75	00111101	=	=
62	3E	76	00111110	>	>
63	3F	77	00111111	?	?
64	40	100	01000000	@	@
65	41	101	01000001	A	A
66	42	102	01000010	B	B

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>	<i>ASCII Meaning</i>
67	43	103	01000011	C	C
68	44	104	01000100	D	D
69	45	105	01000101	E	E
70	46	106	01000110	F	F
71	47	107	01000111	G	G
72	48	110	01001000	H	H
73	49	111	01001001	I	I
74	4A	112	01001010	J	J
75	4B	113	01001011	K	K
76	4C	114	01001100	L	L
77	4D	115	01001101	M	M
78	4E	116	01001110	N	N
79	4F	117	01001111	O	O
80	50	120	01010000	P	P
81	51	121	01010001	Q	Q
82	52	122	01010010	R	R
83	53	123	01010011	S	S
84	54	124	01010100	T	T
85	55	125	01010101	U	U
86	56	126	01010110	V	V
87	57	127	01010111	W	W
88	58	130	01011000	X	X
89	59	131	01011001	Y	Y
90	5A	132	01011010	Z	Z
91	5B	133	01011011	[[
92	5C	134	01011100	\	\
93	5D	135	01011101]]
94	5E	136	01011110	^	^
95	5F	137	01011111	_	_
96	60	140	01100000	,	,
97	61	141	01100001	a	a
98	62	142	01100010	b	b
99	63	143	01100011	c	c
100	64	144	01100100	d	d
101	65	145	01100101	e	e
102	66	146	01100110	f	f
103	67	147	01100111	g	g
104	68	150	01101000	h	h
105	69	151	01101001	i	i
106	6A	152	01101010	j	j
107	6B	153	01101011	k	k
108	6C	154	01101100	l	l
109	6D	155	01101101	m	m
110	6E	156	01101110	n	n
111	6F	157	01101111	o	o
112	70	160	01110000	p	p
113	71	161	01110001	q	q
114	72	162	01110010	r	r
115	73	163	01110011	s	s
116	74	164	01110100	t	t
117	75	165	01110101	u	u
118	76	166	01110110	v	v

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>	
119	77	167	01110111	w	w
120	78	170	01111000	x	x
121	79	171	01111001	y	y
122	7A	172	01111010	z	z
123	7B	173	01111011	{	{
124	7C	174	01111100		
125	7D	175	01111101	}	}
126	7E	176	01111110	~	~
127	7F	177	01111111	Δ	Del

The Extended IBM Character Graphics Display Codes are presented in the following table:

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>
128	80	200	10000000	Ç
129	81	201	10000001	ü
130	82	202	10000010	é
131	83	203	10000011	â
132	84	204	10000100	ä
133	85	205	10000101	à
134	86	206	10000110	á
135	87	207	10000111	ç
136	88	210	10001000	ê
137	89	211	10001001	ë
138	8A	212	10001010	è
139	8B	213	10001011	ï
140	8C	214	10001100	í
141	8D	215	10001101	ì
142	8E	216	10001110	Ä
143	8F	217	10001111	Á
144	90	220	10010000	É
145	91	221	10010001	•
146	92	222	10010010	€
147	93	223	10010011	ò
148	94	224	10010100	ó
149	95	225	10010101	ô
150	96	226	10010110	û
151	97	227	10010111	ù
152	98	230	10011000	ý
153	99	231	10011001	ö
154	9A	232	10011010	Ü
155	9B	233	10011011	•
156	9C	234	10011100	£
157	9D	235	10011101	v
158	9E	236	10011110	Æ
159	9F	237	10011111	f
160	A0	240	10100000	á
161	A1	241	10100001	í

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>
162	A2	242	10100010	ó
163	A3	243	10100011	ù
164	A4	244	10100100	ñ
165	A5	245	10100101	Ñ
166	A6	246	10100110	ø
167	A7	247	10100111	Ω
168	A8	250	10101000	¿
169	A9	251	10101001	ƒ
170	AA	252	10101010	ƒ
171	AB	253	10101011	¼
172	AC	254	10101100	½
173	AD	255	10101101	i
174	AE	256	10101110	«
175	AF	257	10101111	»
176	B0	260	10110000	■
177	B1	261	10110001	■
178	B2	262	10110010	■
179	B3	263	10110011	
180	B4	264	10110100	+
181	B5	265	10110101	+
182	B6	266	10110110	+
183	B7	267	10110111	+
184	B8	270	10111000	+
185	B9	271	10111001	+
186	BA	272	10111010	
187	BB	273	10111011	
188	BC	274	10111100	
189	BD	275	10111101	
190	BE	276	10111110	
191	BF	277	10111111	
192	C0	300	11000000	∟
193	C1	301	11000001	∟
194	C2	302	11000010	∟
195	C3	303	11000011	∟
196	C4	304	11000100	∟
197	C5	305	11000101	∟
198	C6	306	11000110	∟
199	C7	307	11000111	∟
200	C8	310	11001000	∟
201	C9	311	11001001	∟
202	CA	312	11001010	∟
203	CB	313	11001011	∟
204	CC	314	11001100	∟
205	CD	315	11001101	∟
206	CE	316	11001110	∟
207	CF	317	11001111	∟
208	D0	320	11010000	∟
209	D1	321	11010001	∟
210	D2	322	11010010	∟
211	D3	323	11010011	∟
212	D4	324	11010100	∟

<i>Decimal</i>	<i>Hex</i>	<i>Octal</i>	<i>Binary</i>	<i>Graphic Character</i>
213	D5	325	11010101	F
214	D6	326	11010110	π
215	D7	327	11010111	#
216	D8	330	11011000	†
217	D9	331	11011001	J
218	DA	332	11011010	Γ
219	DB	333	11011011	■
220	DC	334	11011100	■
221	DD	335	11011101	■
222	DE	336	11011110	■
223	DF	337	11011111	■
224	E0	340	11100000	α
225	E1	341	11100001	β
226	E2	342	11100010	Γ
227	E3	343	11100011	π
228	E4	344	11100100	Σ
229	E5	345	11100101	σ
230	E6	346	11100110	υ
231	E7	347	11100111	τ
232	E8	350	11101000	θ
233	E9	351	11101001	θ
234	EA	352	11101010	Ω
235	EB	353	11101011	σ
236	EC	354	11101100	-
237	ED	355	11101101	φ
238	EE	356	11101110	€
239	EF	357	11101111	∩
240	F0	360	11110000	■
241	F1	361	11110001	±
242	F2	362	11110010	≥
243	F3	363	11110011	≤
244	F4	364	11110100	/
245	F5	365	11110101	J
246	F6	366	11110110	+
247	F7	367	11110111	■
248	F8	370	11111000	°
249	F9	371	11111001	°
250	FA	372	11111010	°
251	FB	373	11111011	γ
252	FC	374	11111100	π
253	FD	375	11111101	²
254	FE	376	11111110	■
255	FF	377	11111111	■