

# The ASCII Coding System

Text information is encoded electronically in 8 bits per character (byte) according to this standard scheme.

Dec	Hex	Char
0	00	null
1	01	soh
2	02	sot
3	03	eot
4	04	
5	05	
6	06	ack
7	07	<b>bell</b>
8	08	back
9	09	htab
10	0A	<b>LF</b>
11	0B	vtab
12	0C	feed
13	0D	<b>CR</b>
14	0E	
15	0F	
16	10	
17	11	
18	12	
19	13	
20	14	
21	15	nak
22	16	
23	17	
24	18	
25	19	
25	1A	
27	1B	<b>esc</b>
28	1C	
29	1D	
30	1E	
31	1F	

Dec	Hex	Char
32	20	sp
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
49	31	1
50	32	2
51	33	3
52	34	4
53	35	5
54	36	6
55	37	7
56	38	8
57	39	9
58	3A	:
59	3B	;
60	3C	<
61	3D	=
62	3E	>
63	3F	?

Dec	Hex	Char
64	40	@
65	41	A
66	42	B
67	43	C
68	44	D
69	45	E
70	46	F
71	47	G
72	48	H
73	49	I
74	4A	J
75	4B	K
76	4C	L
77	4D	M
78	4E	N
79	4F	O
80	50	P
81	51	Q
82	52	R
83	53	S
84	54	T
85	55	U
86	56	V
87	57	W
88	58	X
89	59	Y
90	5A	Z
91	5B	[
92	5C	\
93	5D	]
94	5E	^
95	5F	_

Dec	Hex	Char
96	60	`
97	61	a
98	62	b
99	63	c
100	64	d
101	65	e
102	66	f
103	67	g
104	68	h
105	69	i
106	6A	j
107	6B	k
108	6C	l
109	6D	m
110	6E	n
111	6F	o
112	70	p
113	71	q
114	72	r
115	73	s
116	74	t
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	<b>7A</b>	<b>z</b>
123	7B	{
124	7C	
125	7D	}
126	7E	~
127	7F	

Hexadecimal digits each abbreviate 4 bits. "0" means the bit is off and "1" means the bit is on. Anything capable of unambiguously representing two different "states" or settings can be used to encode a text message in ASCII. Lights, holes punched in paper, magnetized spots and even smoke signals have been used to convey information encoded this way.

Hex	Binary
0	0000
1	0001
2	0010
3	0011
4	0100
5	0101
6	0110
7	<b>0111</b>

Hex	Binary
8	1000
9	1001
<b>A</b>	<b>1010</b>
B	1011
C	1100
D	1101
E	1110
F	1111

How 8 bits form a "byte" to represent the character "z"

