

BLOCKCHAIN TUTORIAL 12

ASCII

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	HT	LF	VT	FF	CR	SO	SI
1	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
2		!	"	#	\$	%	&	'	()	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[\]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{		}	~	DEL

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- ASCII is an acronym for the **A**merican **S**tandard **C**ode for **I**nformation **I**nterchange
- ASCII is used to represent English characters as numbers with each letter assigned a number from 0 to 127 (= 128 possibilities).
- Computers converts text to numbers because it makes it possible to transfer data from one computer to another.
- The standard ASCII character set uses 7 bits ($2^7 = 128$ possibilities) for each character (English).
- There are other character sets for example ISO8859 or Unicode using 8 or more bits to convert non-English characters and other symbols to numbers.

ASCIITABLE

Decimal	Hexadecimal	Char	Decimal	Hexadecimal	Char	Decimal	Hexadecimal	Char
0	0	[NULL]	48	30	0	96	60	`
1	1	[START OF HEADING]	49	31	1	97	61	a
2	2	[START OF TEXT]	50	32	2	98	62	b
3	3	[END OF TEXT]	51	33	3	99	63	c
4	4	[END OF TRANSMISSION]	52	34	4	100	64	d
5	5	[ENQUIRY]	53	35	5	101	65	e
6	6	[ACKNOWLEDGE]	54	36	6	102	66	f
7	7	[BELL]	55	37	7	103	67	g
8	8	[BACKSPACE]	56	38	8	104	68	h
9	9	[HORIZONTAL TAB]	57	39	9	105	69	i
10	A	[LINE FEED]	58	3A	:	106	6A	j
11	B	[VERTICAL TAB]	59	3B	;	107	6B	k
12	C	[FORM FEED]	60	3C	<	108	6C	l
13	D	[CARRIAGE RETURN]	61	3D	=	109	6D	m
14	E	[SHIFT OUT]	62	3E	>	110	6E	n
15	F	[SHIFT IN]	63	3F	?	111	6F	o
16	10	[DATA LINK ESCAPE]	64	40	@	112	70	p
17	11	[DEVICE CONTROL 1]	65	41	A	113	71	q
18	12	[DEVICE CONTROL 2]	66	42	B	114	72	r
19	13	[DEVICE CONTROL 3]	67	43	C	115	73	s
20	14	[DEVICE CONTROL 4]	68	44	D	116	74	t
21	15	[NEGATIVE ACKNOWLEDGE]	69	45	E	117	75	u
22	16	[SYNCHRONOUS IDLE]	70	46	F	118	76	v
23	17	[ENG OF TRANS. BLOCK]	71	47	G	119	77	w
24	18	[CANCEL]	72	48	H	120	78	x
25	19	[END OF MEDIUM]	73	49	I	121	79	y
26	1A	[SUBSTITUTE]	74	4A	J	122	7A	z
27	1B	[ESCAPE]	75	4B	K	123	7B	{
28	1C	[FILE SEPARATOR]	76	4C	L	124	7C	
29	1D	[GROUP SEPARATOR]	77	4D	M	125	7D	}
30	1E	[RECORD SEPARATOR]	78	4E	N	126	7E	~
31	1F	[UNIT SEPARATOR]	79	4F	O	127	7F	[DEL]
32	20	[SPACE]	80	50	P			
33	21	!	81	51	Q			
34	22	"	82	52	R			
35	23	#	83	53	S			
36	24	\$	84	54	T			
37	25	%	85	55	U			
38	26	&	86	56	V			
39	27	'	87	57	W			
40	28	(88	58	X			
41	29)	89	59	Y			
42	2A	*	90	5A	Z			
43	2B	+	91	5B	[
44	2C	,	92	5C	\			
45	2D	-	93	5D]			
46	2E	.	94	5E	^			
47	2F	/	95	5F	_			

For example, the word "Cat" converted into ASCII is:

67, 97, 116 (decimal)

ASCII ENCODING DECODING

