

HELLO

DATA REPRESENTATION

BINARY SYSTEM

A binary number system, is a base-2 number system used to represent numerical values using two symbols, usually 0 and 1. Any two symbols or states such as 0 and 1, true/false, or on/off can also be used.

Decimal Representation	Unsigned Representation	Signed-Magnitude Representation	Ones Complement Representation	Twos-Complement Representation	Biased Representation
+8	1000	—	—	—	1111
+7	0111	0111	0111	0111	1110
+6	0110	0110	0110	0110	1101
+5	0101	0101	0101	0101	1100
+4	0100	0100	0100	0100	1011
+3	0011	0011	0011	0011	1010
+2	0010	0010	0010	0010	1001
+1	0001	0001	0001	0001	1000
+0	0000	0000	0000	0000	0111
-0	—	1000	1111	—	—
-1	—	1001	1110	1111	0110
-2	—	1010	1101	1110	0101
-3	—	1011	1100	1101	0100
-4	—	1100	1011	1100	0011
-5	—	1101	1010	1011	0010
-6	—	1110	1001	1010	0001
-7	—	1111	1000	1001	0000
-8	—	—	—	1000	—

HEXADECIMAL SYSTEM

In mathematics and computing, the hexadecimal number system is a numerical notation with integer orders of 16. The symbols {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, F, E, D, C, B, A} to represent the values of the numbers within the first digit in ascending order according to the sequence of their occurrence, then it is reused again to write the rest of the digits according to the value of the digit.

التحويل بين النظام العشري والثنائي والثماني والست عشري			
النظام الست عشري (16)	النظام الثماني (8)	النظام الثنائي (2)	النظام العشري (10)
0	00	0000	00
1	01	0001	01
2	02	0010	02
3	03	0011	03
4	04	0100	04
5	05	0101	05
6	06	0110	06
7	07	0111	07
8	10	1000	08
9	11	1001	09
A	12	1010	10
B	13	1011	11
C	14	1100	12
D	15	1101	13
E	16	1110	14
F	17	1111	15

ASCII CODE

A set of symbols and notation systems based on the Latin alphabet as it is used in modern English and other Western European languages. One of the most common uses of ASCII scripts is in computer systems, communication devices, and control systems that deal with text.

Below is the standard ASCII characters.

Dec	Char	Dec	Char	Dec	Char	Dec	Char	Dec	Char	Dec	Char
33	!	49	1	65	A	81	Q	97	a	113	q
34	"	50	2	66	B	82	R	98	b	114	r
35	#	51	3	67	C	83	S	99	c	115	s
36	\$	52	4	68	D	84	T	100	d	116	t
37	%	53	5	69	E	85	U	101	e	117	u
38	&	54	6	70	F	86	V	102	f	118	v
39	'	55	7	71	G	87	W	103	g	119	w
40	(	56	8	72	H	88	X	104	h	120	x
41	)	57	9	73	I	89	Y	105	i	121	y
42	*	58	:	74	J	90	Z	106	j	122	z
43	+	59	;	75	K	91	[	107	k	123	{
44	,	60	<	76	L	92	\	108	l	124	|
45	-	61	=	77	M	93	]	109	m	125	}
46	.	62	>	78	N	94	^	110	n	126	~
47	/	63	?	79	O	95	_	111	o	127	=
48	0	64	@	80	P	96	`	112	p		

THANKS FOR READING

GOODBYE!