

# BINARY TO DECIMAL REFERENCE CHART

0	00000000
1	00000001
2	00000010
3	00000011
4	00000100
5	00000101
6	00000110
7	00000111
8	00001000
9	00001001

10	00001010
11	00001011
12	00001100
13	00001101
14	00001110
15	00001111
16	00010000
32	00100000
64	01000000
128	10000000

$2^0$	1
$2^1$	2
$2^2$	4
$2^3$	8
$2^4$	16
$2^5$	32
$2^6$	64
$2^7$	128
$2^8$	256
$2^9$	512

## QUICK CONVERSION LOGIC

To convert binary to decimal: Multiply each bit by 2 raised to the power of its position (starting from 0 on the right) and sum the results.

Example:  $1011 = (1 \times 2^3) + (0 \times 2^2) + (1 \times 2^1) + (1 \times 2^0) = 8 + 0 + 2 + 1 = 11$ .