

CONVERSION OF DECIMAL NUMBER TO BINARY NUMBER

Example 1: Converting decimal number 175 into its binary equivalent.

2	175	
2	87	Remainder 1
2	43	Remainder 1
2	21	Remainder 1
2	10	Remainder 1
2	5	Remainder 0
2	2	Remainder 1
2	1	Remainder 0
	0	Remainder 1

Thus, the decimal number 175 is equal to **10101111** in binary form.

The above statement can be expressed as $(175)_{10} = (10101111)_2$. The base of the number is written as **subscript**.

Activate Window
Go to Settings to activate

CONVERSION OF BINARY NUMBER TO DECIMAL NUMBER

Example 2: Converting binary number (111101) into its equivalent decimal number.

$$\begin{aligned} &= 1 \times 2^5 + 1 \times 2^4 + 1 \times 2^3 + 1 \times 2^2 + 0 \times 2^1 + 1 \times 2^0 \\ &= 1 \times 32 + 1 \times 16 + 1 \times 8 + 1 \times 4 + 0 \times 2 + 1 \times 1 \\ &= 32 + 16 + 8 + 4 + 0 + 1 \\ &= 61 \end{aligned}$$

Thus, $(111101)_2 = (61)_{10}$