COMPUTER FUNDAMENTALS

(Introduction of computer)

Eleven Day

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BINARY NUMBER

AND

DECIMAL NUMBER

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BINARY NUMBER

The number system, which has base two, is called binary number system. To represent a number in binary number system any combination of 0's and 1's can be used

For Ex.

1101, 1101, 1100 etc.

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DECIMAL NUMBER

In this system ten digits are used viz., 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. These digits represent their absolute value. The base of this number system is 10.

For Ex.

1304, 1786, 1560 etc.

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CONVERSION

BINARY NUMBER TO DECIMAL NUMBER

Example 1: The binary number 1100 is converted into decimal number as follows:

$1 \times 2^3 + 1 \times 2^2 + 0 \times 2^1 + 0 \times 2^0$

$1 \times 8 + 1 \times 4 \times 0 \times 2 + 0 \times 1$ (since $2^0 = 1$)

$8 + 4 + 0 + 0$

12

The binary number 1100 is equivalent to decimal number 12.

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CONVERSION

BINARY NUMBER TO DECIMAL NUMBER

Example 2: The binary number 1011 is converted into decimal number as follows:

$1 \times 2^3 + 0 \times 2^2 + 1 \times 2^1 + 1 \times 2^0$

$1 \times 8 + 0 \times 4 \times 1 \times 2 + 1 \times 1$ (since $2^0 = 1$)

$8 + 0 + 2 + 1$

11

The binary number 1011 is equivalent to decimal number 11.

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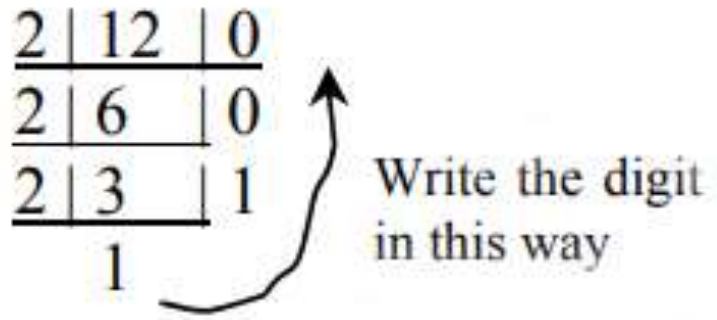
CONVERSION

DECIMAL NUMBER TO BINARY NUMBER

Example 1: The decimal number 12 is converted into binary number as follows:



The Decimal number 12 is equivalent to Binary number 1100.

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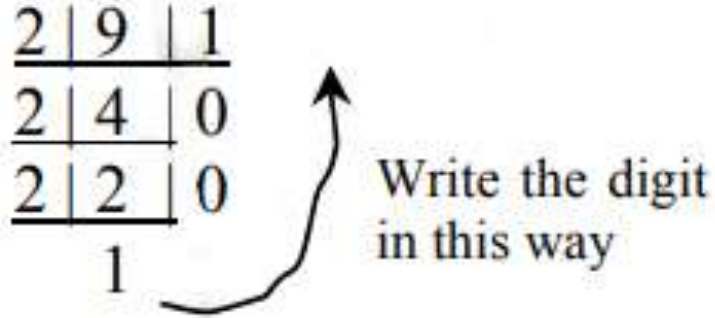
CONVERSION

DECIMAL NUMBER TO BINARY NUMBER

Example 2: The decimal number 9 is converted into binary number as follows:



The Decimal number 9 is equivalent to Binary number 1001.

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