

Algorithm

$$\Rightarrow 110_2 = (1 \cdot 2^2) + (1 \cdot 2^1) + (0 \cdot 2^0)$$

$$\Rightarrow 110_2 = 4 + 2 + 0$$

$$\Rightarrow 110_2 = 6$$

1. Multiply each digit separately from left to right by $2^0, 2^1, 2^2 \dots$ respectively.
2. Add all the results coming from step 1.
3. Equivalent decimal number would be the result obtained in step 2.

Code

```
// Function to convert binary to decimal
int binaryToDecimal(int n)
{
    int num = n;
    int dec_value = 0;

    // Initializing base value to 1, i.e 2^0
    int base = 1;

    int temp = num;
    while (temp) {
        int last_digit = temp % 10;
        temp = temp / 10;

        dec_value += last_digit * base;

        base = base * 2;
    }

    return dec_value;
}
```

Dry Run

num = 110 dec_value = 0
base = 1 temp = 110

last_dig = 0	last_dig = 1	last_dig = 1
temp = 11	temp = 1	temp = 0
dec_val = 0	dec_val = 2	dec_val = 6
base = 2	base = 4	base = 8

Input : 110

Output : 6

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Input : 110

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Thank you for watching!

Please leave us your comments.

