**C code for binary to decimal conversion:**

#include<stdio.h>

int main(){

    long int binaryNumber,decimalNumber=0,j=1,remainder;

    printf("Enter any number any binary number: ");

    scanf("%ld",&binaryNumber);

    while(binaryNumber!=0){

         remainder=binaryNumber%10;

        decimalNumber=decimalNumber+remainder\*j;

        j=j\*2;

        binaryNumber=binaryNumber/10;

    }

    printf("Equivalent decimal value: %ld",decimalNumber);

    return 0;

}

**Sample output:**

Enter any number any binary number: 1101

Equivalent decimal value: 13

**Algorithm:**

**Binary number system:** It is base 2 number system which uses the digits from 0 and 1.

**Decimal number system:**

It is base 10 number system which uses the digits from 0 to 9

**Convert from binary to decimal algorithm:**

For this we multiply each digit separately from right side by 1, 2, 4, 8, 16 … respectively then add them.

**Binary number to decimal conversion with example:**

For example we want toconvert binary number 101111 to decimal:

Step1:  1 \* 1 = 1

Step2:  1 \* 2 = 2

Step3:  1 \* 4 = 4

Step4:  1 \* 8 = 8

Step5:  0 \* 16 = 0

Step6:  1 \* 32 = 32

Its decimal value: 1 + 2 + 4+ 8+ 0+ 32 = 47

That is (101111)2 = (47)10