**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 decimal to binary algorithm:**

Following steps describe how to convert decimal to binary

Step1: Divide the original decimal number by 2

Step 2: Divide the quotient by 2

Step 3: Repeat the step 2 until we get quotient equal to zero.

Equivalent binary number would be remainders of each step in the reverse order.

**Decimal to binary conversion with example:**

For example we want to convert decimal number 25 in the binary.

Step 1:  25 / 2  Remainder : 1 , Quotient : 12

Step 2:  12 / 2  Remainder : 0 , Quotient : 6

Step 3:   6 / 2  Remainder : 0 , Quotient : 3

Step 4:   3 / 2  Remainder : 1 , Quotient : 1

Step 5:   1 / 2  Remainder : 1 , Quotient : 0

So equivalent binary number is: 11001

That is (25)10 = (11001)2

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

#include<stdio.h>

int main(){

    long int decimalNumber,remainder,quotient;

    int binaryNumber[100],i=1,j;

    printf("Enter any decimal number: ");

    scanf("%ld",&decimalNumber);

    quotient = decimalNumber;

    while(quotient!=0){

         binaryNumber[i++]= quotient % 2;

         quotient = quotient / 2;

    }

    printf("Equivalent binary value of decimal number %d: ",decimalNumber);

    for(j = i -1 ;j> 0;j--)

         printf("%d",binaryNumber[j]);

    return 0;

}

**Sample output:**

Enter any decimal number: 50

Equivalent binary value of decimal number 50: 110010