**BINARY TO DECIMAL CONVERSION**

**EXP NO: 26**

**AIM:** To write a C program to implement binary to decimal conversion.

**ALGORITHM:**

1. Start
2. Read the binary number from the user, say ‘n’
3. Initialize the decimal number, d=0
4. Initialize i=0
5. Repeat while n != 0:
   * 1. Extract the last digit by: remainder = n % 10
     2. n = n/10
     3. d = d + (remainder \* 2<sup>i</sup>)
     4. Increment i by 1
6. Display the decimal number, d
7. Stop

**PROGRAM:**

#include <stdio.h>

void main()

{

int num, binary\_num, decimal\_num = 0, base = 1, rem;

printf (" Enter a binary number with the combination of 0s and 1s \n");

scanf (" %d", &num);

binary\_num = num;

while ( num > 0)

{

rem = num % 10;

decimal\_num = decimal\_num + rem \* base;

num = num / 10;

base = base \* 2;

}

printf ( " The binary number is %d \t", binary\_num);

printf (" \n The decimal number is %d \t", decimal\_num);

}

**INPUT:**

**A black and white text

Description automatically generated**

**OUTPUT:**

**A computer screen with a black screen

Description automatically generated**

**RESULT:** Thus the program was executed successfully using DevC++.