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:

i.
Extract the last digit
by: remainder = n % 10

ii.
n = n/10

iii.
d = d + (remainder *
2ⁱ)

iv.
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:

Enter a binary number with the combination of 0s and 1s
1011
The binary number is 1011
The decimal number is 11

OUTPUT:
Enter a binary number with the combination of 0s and 1s
1011
The binary number is 1011
The decimal number is 11

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