

BINARY TO DECIMAL CONVERSION

EXP NO: 26

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

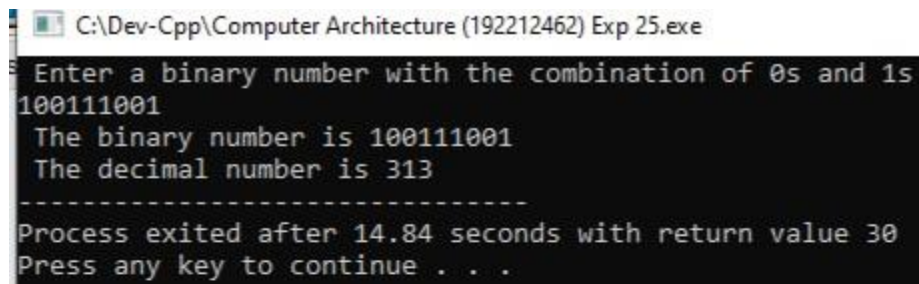
ALGORITHM:

- 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 & OUTPUT:



```
C:\Dev-Cpp\Computer Architecture (192212462) Exp 25.exe
Enter a binary number with the combination of 0s and 1s
100111001
The binary number is 100111001
The decimal number is 313
-----
Process exited after 14.84 seconds with return value 30
Press any key to continue . . .
```

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