

## HEXADECIMAL TO DECIMAL CONVERSION

EXP NO: 27

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

### ALGORITHM:

- 1) Start from the right-most digit. Its weight (or coefficient) is 1.
- 2) Multiply the weight of the position by its digit. Add the product to the result.  
(0=0, 1=1, 2=2, ... 9=9, A=10, B=11, C=12, D=13, E=14, F=15)
- 3) Move one digit to the left. Its weight is 16 times the previous weight.
- 4) Repeat 2 and 3 until you go through all hexadecimal digits.

### PROGRAM:

```
#include <stdio.h>

int main() {

    int n;

    // Prompt the user to enter a hexadecimal number

    printf("Enter the hexadecimal number: ");

    scanf("%x", &n); // %x is used to input a hexadecimal number

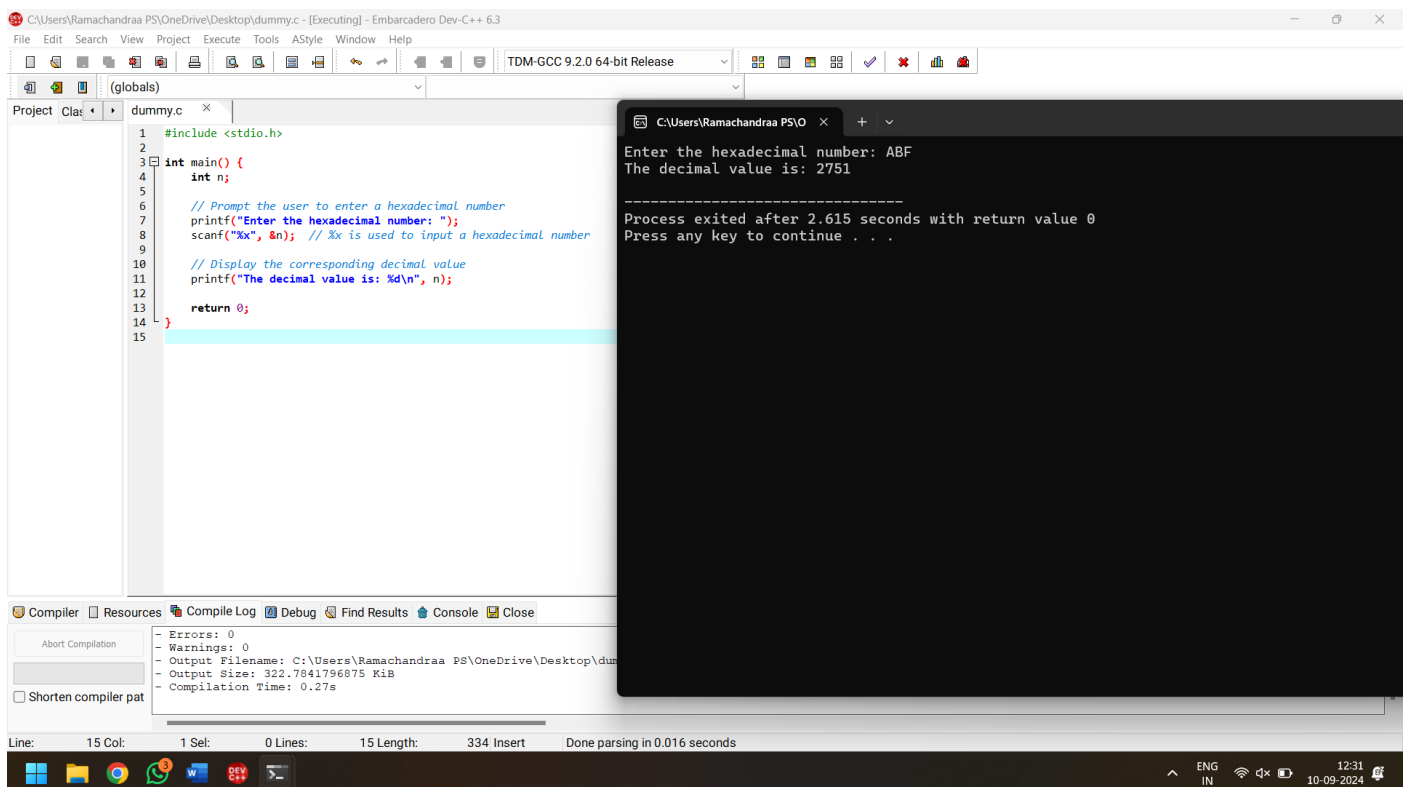
    // Display the corresponding decimal value

    printf("The decimal value is: %d\n", n);

    return 0;

}
```

### INPUT & OUTPUT:



The screenshot displays the DevC++ IDE interface. The main window shows the source code for a C program that converts a hexadecimal number to a decimal number. The code includes the standard input/output library, declares an integer variable 'n', prompts the user for a hexadecimal number, reads the input using 'scanf' with the '%x' format specifier, prints the decimal value using 'printf' with the '%d' format specifier, and returns 0. The console window on the right shows the program's execution: it prompts 'Enter the hexadecimal number: ABF', outputs 'The decimal value is: 2751', and then displays a message indicating the process exited after 2.615 seconds with a return value of 0. The status bar at the bottom shows the current line and column, and the system tray at the very bottom indicates the time as 12:31 on 10-09-2024.

```
1 #include <stdio.h>
2
3 int main() {
4     int n;
5
6     // Prompt the user to enter a hexadecimal number
7     printf("Enter the hexadecimal number: ");
8     scanf("%x", &n); // %x is used to input a hexadecimal number
9
10    // Display the corresponding decimal value
11    printf("The decimal value is: %d\n", n);
12
13    return 0;
14 }
15
```

Enter the hexadecimal number: ABF  
The decimal value is: 2751

Process exited after 2.615 seconds with return value 0  
Press any key to continue . . .

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