

EXP NO: 25 DECIMAL TO BINARY CONVERSION

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

ALGORITHM:

- 1) Check if your number is odd or even.
- 2) If it's even, write 0 (proceeding backwards, adding binary digits to the left of the result).
- 3) Otherwise, if it's odd, write 1 (in the same way).
- 4) Divide your number by 2 (dropping any fraction) and go back to step 1. Repeat until your original number is 0.

PROGRAM:

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
int main() {
```

```
    int a[10], n, i;
```

```
    printf("Enter the number to convert: ");
```

```
    scanf("%d", &n);
```

```
    // Convert decimal to binary
```

```
    for (i = 0; n > 0; i++) {
```

```
        a[i] = n % 2;
```

```
        n = n / 2;
```

```
    }
```

```
    printf("\nBinary of Given Number is = ");
```

```
    // Print binary representation
```

```
    for (i = i - 1; i >= 0; i--) {
```

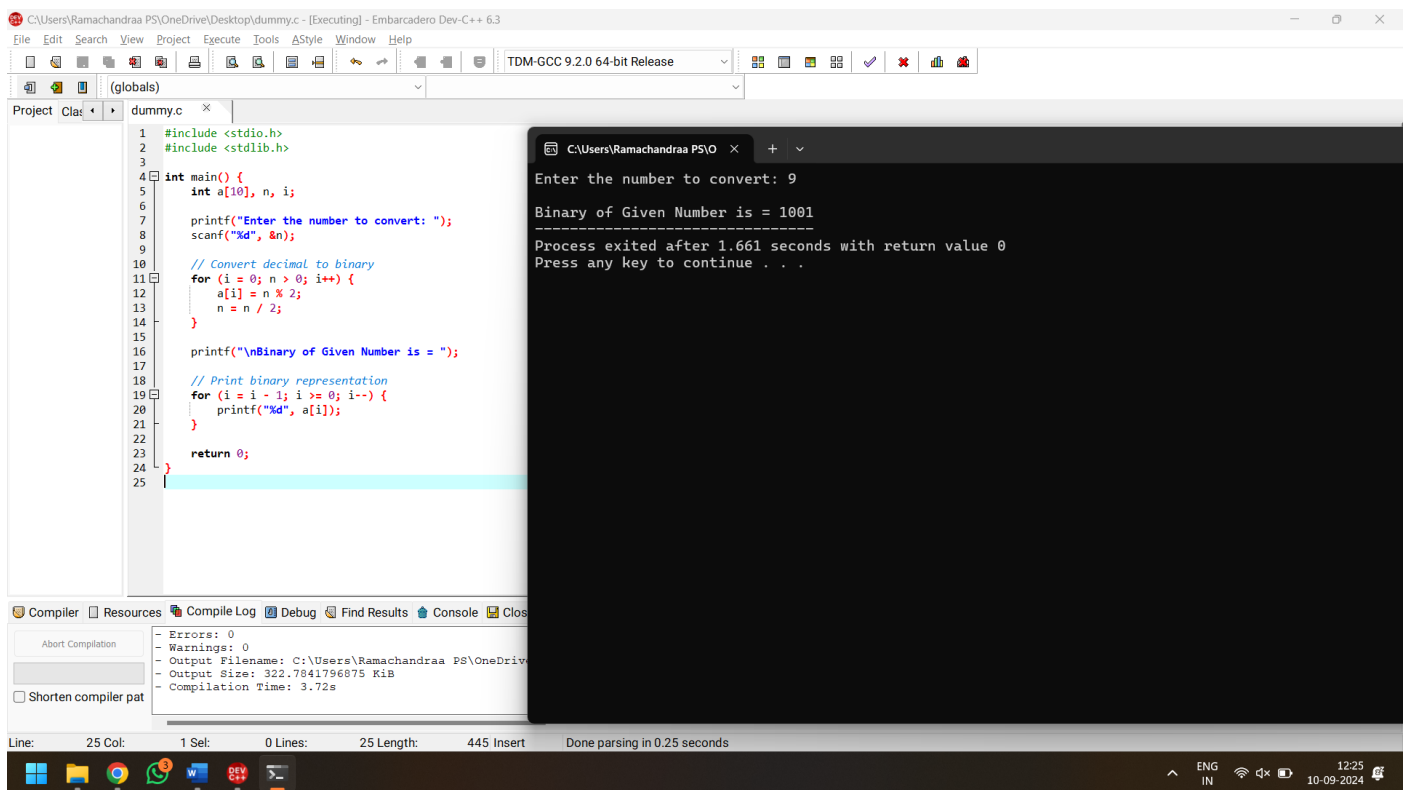
```
        printf("%d", a[i]);
```

```
    }
```

```
    return 0;
```

```
}
```

INPUT & OUTPUT:



The screenshot displays the Embarcadero Dev-C++ 6.3 IDE. The main editor window shows a C program named `dummy.c` with the following code:

```
1 #include <stdio.h>
2 #include <stdlib.h>
3
4 int main() {
5     int a[10], n, i;
6
7     printf("Enter the number to convert: ");
8     scanf("%d", &n);
9
10    // Convert decimal to binary
11    for (i = 0; n > 0; i++) {
12        a[i] = n % 2;
13        n = n / 2;
14    }
15
16    printf("\nBinary of Given Number is = ");
17
18    // Print binary representation
19    for (i = i - 1; i >= 0; i--) {
20        printf("%d", a[i]);
21    }
22
23    return 0;
24 }
25
```

The bottom-left pane shows the compiler output:

```
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Ramachandras PS\OneDrive\Desktop\dummy.exe
- Output Size: 322,784,179,687,5 KiB
- Compilation Time: 3.72s
```

The bottom-right pane shows the console output:

```
C:\Users\Ramachandras PS\O x + v
Enter the number to convert: 9
Binary of Given Number is = 1001
-----
Process exited after 1.661 seconds with return value 0
Press any key to continue . . .
```

The status bar at the bottom indicates: Line: 25 Col: 1 Sel: 0 Lines: 25 Length: 445 Insert Done parsing in 0.25 seconds. The system tray shows the date and time as 10-09-2024, 12:25.

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