

DECIMAL TO OCTAL CONVERSION

EXP NO: 23

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

ALGORITHM:

- 1) Store the remainder when the number is divided by 8 in an array.
- 2) Divide the number by 8 now
- 3) Repeat the above two steps until the number is not equal to 0.
- 4) Print the array in reverse order now.

PROGRAM:

```
#include <stdio.h>

int main()
{
    long decimal, remainder, quotient, octal=0;
    int octalnum[100], i = 1, j;
    printf("Enter the decimal number: ");
    scanf("%ld", &decimal);
    quotient = decimal;
    while (quotient != 0)
    {
        octalnum[i++] = quotient % 8;
        quotient = quotient / 8;
    }
    for (j = i - 1; j > 0; j--)
        octal= octal*10 + octalnum[j];
```

```
    printf("Equivalent octal value of decimal no %d is: %d ", decimal,octalnum);  
    return 0;  
}
```

INPUT:

25

OUTPUT:

The screenshot shows a web-based C compiler interface. The code editor on the left contains a C program that prompts the user to enter a decimal number, reads the input (25), and calculates its octal representation by repeatedly dividing by 8 and storing the remainders. The output window on the right shows the program's execution, displaying the input and the resulting octal value, followed by a success message.

```
main.c  
1 #include <stdio.h>  
2 int main()  
3 {  
4     long decimal, remainder, quotient,octal=0;  
5     int octalnum[100], i = 1, j;  
6     printf("Enter the decimal number: ");  
7     scanf("%ld", &decimal);  
8     quotient = decimal;  
9     while (quotient != 0)  
10    {  
11        octalnum[i++] = quotient % 8;  
12        quotient = quotient / 8;  
13    }  
14    for (j = i - 1; j > 0; j--)  
15        octal= octal*10 + octalnum[j];  
16    printf("Equivalent octal value of decimal no %d is: %d ", decimal,octalnum);  
17    return 0;  
18 }  
19
```

Output
Enter the decimal number: 25
Equivalent octal value of decimal no 25 is: 633201152
=== Code Execution Successful ===

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