**Convert Octal to Decimal**  
**EXP NO 30**

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

**ALGORITHM:**

1. Start with the given octal number.
2. Initialize a variable to store the decimal result, initially set to 0.
3. Iterate through the octal digits from right to left, starting with the rightmost digit.
4. For each digit, multiply it by the corresponding power of 8 and add the result to the decimal result.
5. Keep track of the power of 8 for each digit, starting with 0 for the rightmost digit and incrementing it by 1 for each subsequent digit.
6. Continue this process until you have processed all the digits.
7. The final result is the decimal equivalent of the octal number.

**Program:**

#include<stdio.h>  
#include<math.h>  
int OctalToDecimal(int n) {  
   int p = 0, decimal = 0, r;  
     
   while(n>0){  
          
        // retrieving the right-most digit of n  
        r = n % 10;  
          
        // dividing n by 10 to remove the  
        // right-most digits since it is already  
        // scanned in previous step  
        n = n / 10;  
          
        decimal = decimal + r \* pow( 8 , p );      
        ++p;  
          
   }  
     
   return decimal;  
}  
int main() {  
   int n, i, k;  
   printf("Enter Octal: ");  
   scanf("%d", &n);  
   printf("\nDecimal of Octal Number %d is : %d", n, OctalToDecimal(n));  
   return 0;  
}

**INPUT:**

**A black and white text

Description automatically generated**

**OUTPUT:**

**A computer screen shot of a black screen

Description automatically generated**

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