OCTAL TO DECIMAL CONVERSION

EXP NO: 30

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

ALGORITHM:

1. Initialize a variable decimal to 0 and base to 1 (which represents 808^080 for the least significant digit).
2. Extract the last digit of the octal number by taking the remainder when the number is divided by 10.
3. Multiply the extracted digit by the base and add it to decimal.
4. Update base by multiplying it by 8 (i.e., move to the next power of 8).
5. Remove the last digit from the octal number by dividing it by 10.
6. Repeat steps 2-5 until the octal number becomes 0.
7. Finally, print the value stored in decimal as the decimal equivalent.

PROGRAM/OUTPUT SS:

Octal to decimal.cpp

```c
#include<stdio.h>
#include<math.h>
int OctalToDecimal(int n) {
   int p = 0, decimal = 0, r;
    while(n>0){
        r = n % 10;
        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;
}
```

```
C:\Users\praba\OneDrive\Des
Enter Octal: 650

Decimal of Octal Number 650 is : 424
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Process exited after 201.6 seconds with return value 0
Press any key to continue . . .
```

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