**OCTAL TO BINARY CONVERSION**

**EXP NO: 31**

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

**ALGORITHM:**

1. Start with the given octal number.
2. Initialize an empty string to store the binary representation.
3. For each octal digit, convert it to its 3-bit binary equivalent.
4. Append the 3-bit binary equivalent to the binary representation string.
5. Repeat this process for each digit in the octal number.

**PROGRAM:**

#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("Decimal of Octal Number %d is: %d\n", n, OctalToDecimal(n));

return 0;

}

**INPUT:**

**A black and white text on a black background

Description automatically generated**

**OUTPUT:**

**A computer screen shot of a black screen

Description automatically generated**

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