**DECIMAL TO BINARY CONVERSION**

**EXP NO: 28**

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

**ALGORITHM:**

1. Start with the given decimal number.
2. Initialize an empty string to store the hexadecimal representation.
3. While the decimal number is greater than zero, repeat the following steps:
   1. Calculate the remainder when the decimal number is divided by 16.
   2. Map the remainder to its hexadecimal equivalent: 0-9 for remainders 0-9 and A-F for remainders 10-15.
   3. Prepend the hexadecimal digit to the beginning of the hexadecimal representation string.
   4. Divide the decimal number by 16 (integer division).
4. When the decimal number becomes zero, the hexadecimal representation is complete.
5. The resulting string is the hexadecimal representation of the decimal number.

**PROGRAM:**

**#include <stdio.h>**

**int main() {**

**long int decimalNumber, remainder, quotient;**

**int i = 1, j, temp;**

**char hexadecimalNumber[100];**

**printf("Enter any decimal number: ");**

**scanf("%ld", &decimalNumber);**

**quotient = decimalNumber;**

**while (quotient != 0) {**

**temp = quotient % 16;**

**if (temp < 10)**

**temp = temp + 48;**

**else**

**temp = temp + 55;**

**hexadecimalNumber[i++] = temp;**

**quotient = quotient / 16;**

**}**

**printf("Equivalent hexadecimal value of decimal number %ld: ", decimalNumber);**

**for (j = i - 1; j > 0; j--)**

**printf("%c", hexadecimalNumber[j]);**

**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++