Date :

PRACTICAL-10

Objective – Write a program to implement railfence transposition cipher.

Code-

```
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
char *plainTextToCipherText(char plainText[], int n)
{
   int i, j, counter, limit, index = 0, len;
   char *cipherText;
   len = strlen(plainText);
   cipherText = (char *)malloc(sizeof(char) * (len + 1));
   for (i = 0; i < n; i++)
   {
      counter = 0;
      for (j = i; j < len; j += limit)
      {
         cipherText[index++] = plainText[j];
         if (i == 0 || i == n - 1)
            limit = 2 * n - 2;
         else if (counter % 2 == 0)
            limit = 2 * (n - i - 1);
         else
```

```
            limit = 2 * i;
        if (limit <= 0)
            break;
        counter++;
      }
   }
   cipherText[index] = '\0';
   return cipherText;
}
int main()
{
   int n;
   char plainText[100];
   printf("Enter the plain text : ");
   scanf("%s", plainText);
   printf("Enter the value of n : ");
   scanf("%d", &n);
   printf("%s\n", plainTextToCipherText(plainText, n));
   return 0;
}
```

Output-

```
Enter the plain text : HELLOWORLD
Enter the value of n : 3
HOLELWRDLO

Process returned 0 (0x0)   execution time : 7.758 s
Press any key to continue.
```