EXP NO:3 **DATE:**

RAIL FENCE CIPHER

Aim: To implement an encryption algorithm using Rail Fence Cipher technique.

Algorithm:

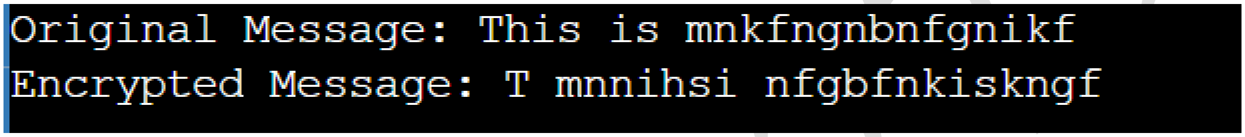
- Step 1: Declare msg and key, initializing msg with the original message, and set key to the desired rail fence key.
- Step 2: Create railMatrix with dimensions [key][msgLen], initializing elements with newline characters.
- Step 3: Iterate through msg, placing characters in railMatrix based on the Rail Fence Cipher pattern, updating row and col.
- Step 4:Print the encrypted message by traversing railMatrix, excluding newline characters.
- Step 5:Return 0 for successful execution and program termination.

Program:

```
#include<stdio.h>
#include<string.h>

void encryptMsg(char msg[], int key){
   int msgLen = strlen(msg), i, j, k = -1, row = 0, col = 0;      char
railMatrix[key][msgLen];

   for(i = 0; i < key; ++i)          for(j =
0; j < msgLen; ++j)
         railMatrix[i][j] = '\n';

   for(i = 0; i < msgLen; ++i){
      railMatrix[row][col++] = msg[i];

      if(row == 0 || row == key-1)
         k= k * (-1);
      row = row + k;
   }

   printf("\nEncrypted Message: ");
```

```
    for(i = 0; i < key; ++i)          for(j = 0; j <
msgLen; ++j)              if(railMatrix[i][j] !=
'\n')                  printf("%c", railMatrix[i][j]);
} int main(){
    char msg[] = "This is Thrisha";
    int key = 3;
    printf("Original Message: %s", msg);
encryptMsg(msg, key);      return 0;
}
```

Output:



```
Original Message: This is mnkfngnbnfgnikf
Encrypted Message: T mnnihsi nfgbfnkiskngf
```

Result: