EXP NO:3 **DATE:16/02/2024**

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[] = "I am Jagath";     int
key = 4;     printf("Original Message:
%s", msg);     encryptMsg(msg, key);
return 0;
}
```

Output:

```
Original Message: I am Jagath
Encrypted Message: Ia Jga ahmt

...Program finished with exit code 0
Press ENTER to exit console.
```

Result:

Implementation of an encryption algorithm using Rail Fence Cipher technique has been successfully executed.