EXP NO:3 **DATE: 10/02/24**

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.

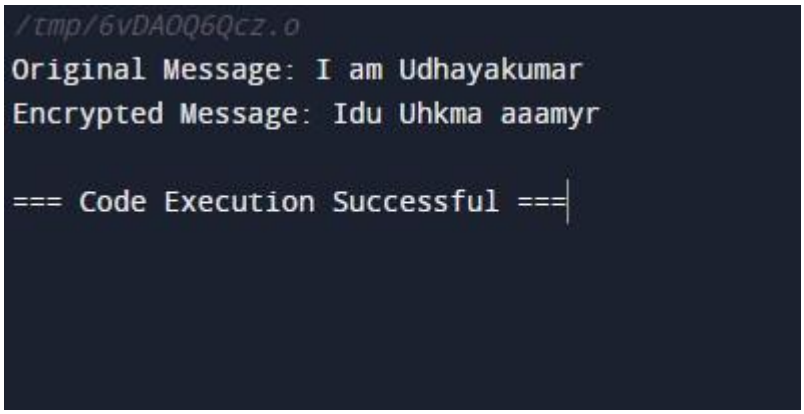
Program:

```
#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 Varusha";
 int key = 4;
 printf("Original Message:  %s",
msg);       encryptMsg(msg,  key);
return 0;
}
```

Output:



Result:

Thus the encryption algorithm using Rail Fence Cipher technique is implemented successfully.