**Practical 7**

Write a program to perform encryption and decryption using Railfence Cipher.

* **CODE :-**

def encryptRF(text, key):

rail = [['\n' for i in range(len(text))]

for j in range(key)]

dir\_down = False

row, col = 0, 0

for i in range(len(text)):

if (row == 0) or (row == key - 1):

dir\_down = not dir\_down

rail[row][col] = text[i]

col += 1

if dir\_down:

row += 1

else:

row -= 1

result = []

for i in range(key):

for j in range(len(text)):

if rail[i][j] != '\n':

result.append(rail[i][j])

return("" . join(result))

def decryptRF(ciphertext, key):

rail = [['\n' for i in range(len(ciphertext))]

for j in range(key)]

dir\_down = None

row, col = 0, 0

for i in range(len(ciphertext)):

if row == 0:

dir\_down = True

if row == key - 1:

dir\_down = False

rail[row][col] = '\*'

col += 1

if dir\_down:

row += 1

else:

row -= 1

index = 0

for i in range(key):

for j in range(len(ciphertext)):

if ((rail[i][j] == '\*') and

(index < len(ciphertext))):

rail[i][j] = ciphertext[index]

index += 1

result = []

row, col = 0, 0

for i in range(len(ciphertext)):

if row == 0:

dir\_down = True

if row == key-1:

dir\_down = False

if (rail[row][col] != '\*'):

result.append(rail[row][col])

col += 1a

if dir\_down:

row += 1

else:

row -= 1

return("".join(result))

pt=input("Enter Plain Text:")

p=int(input("Enter key:"))

en\_str=encryptRF(pt,p)

de\_str=decryptRF(en\_str,p)

print(en\_str)

print(de\_str)

* **OUTPUT :-**

