

```

index1.html  railfence.py X  refforrail.py  wp-exp-1.docx  ref2.html

railfence.py > rail_fence_encrypt
1  def rail_fence_encrypt(plaintext, depth):
2      if depth <= 1:
3          return plaintext
4
5      fence = [['' for _ in range(len(plaintext))] for _ in range(depth)]
6
7      row, step = 0, 1
8      for char in plaintext:
9          fence[row].append(char)
10         if row == 0:
11             step = 1
12         elif row == depth - 1:
13             step = -1
14         row += step
15
16     ciphertext = ''.join([''.join(r) for r in fence])
17     return ciphertext
18
19 def rail_fence_decrypt(ciphertext, depth):
20     if depth <= 1:
21         return ciphertext
22
23     fence = [['' for _ in range(len(ciphertext))] for _ in range(depth)]
24
25     row, step = 0, 1
26     for i in range(len(ciphertext)):
27         fence[row][i] = '*'
28         if row == 0:
29             step = 1
30         elif row == depth - 1:
31             step = -1
32         row += step
33
34     index = 0
35     for r in range(depth):
36         for c in range(len(ciphertext)):
37             if fence[r][c] == '*':
38                 fence[r][c] = ciphertext[index]
39                 index += 1
40

```

```
index1.html  railfence.py x  refforrail.py  wp-exp-1.docx  ref2.html  index2.html
railfence.py > ...
19 def rail_fence_decrypt(ciphertext, depth):
20
21     plaintext = ''
22     row, step = 0, 1
23     for i in range(len(ciphertext)):
24         plaintext += fence[row][i]
25         if row == 0:
26             step = 1
27         elif row == depth - 1:
28             step = -1
29         row += step
30
31     return plaintext
32
33 plaintext = "DiVYAKesaKar"
34 depth = 3
35
36 encrypted = rail_fence_encrypt(plaintext, depth)
37 print(f"Encrypted: {encrypted}")
38
39 decrypted = rail_fence_decrypt(encrypted, depth)
40 print(f"Decrypted: {decrypted}")
41
42
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\Divya\practical> & C:/Users/Divya/AppData/Local/Microsoft/WindowsApps/python3.12.exe d:/Divya/practical/railfence.py
Encrypted: DasaIy eakrvKr
Decrypted: Divya Kesarkar
PS D:\Divya\practical> & C:/Users/Divya/AppData/Local/Microsoft/WindowsApps/python3.12.exe d:/Divya/practical/railfence.py
Encrypted: DaariyKsravek
Decrypted: DivyaKesarkar
PS D:\Divya\practical> & C:/Users/Divya/AppData/Local/Microsoft/WindowsApps/python3.12.exe d:/Divya/practical/railfence.py
Encrypted: DAaiYKsKrVea
Decrypted: DiVYAKesaKar
PS D:\Divya\practical>
```