|  |  |
| --- | --- |
| Name: | Prerna Sunil Jadhav |
| Sap Id: | 60004220127 |
| Class: | T. Y. B. Tech (Computer Engineering) |
| Course: | Information Security Laboratory |
| Course Code: | DJ19CEL603 |
| Experiment No.: | 04 |

**AIM:** Study and Implement Simple Columnar Transposition Cipher.

**CODE:**

def ColTT\_Enc(plain\_text, key):

    matrix = []

    for i in range(key):

        matrix.append([])

    for i in range(len(plain\_text)):

        matrix[i % key].append(plain\_text[i])

    for i in matrix:

        print(i)

    cypher\_text = ''

    for i in matrix:

        for char in i:

            cypher\_text += char

    print("Cipher text of Columnar Transposition is " + cypher\_text)

    return cypher\_text

def ColTT\_Dec(cypher\_text, key):

    matrix = []

    for i in range(key):

        matrix.append([])

    count = int(len(cypher\_text)/key)

    length = 0

    extra = int(len(cypher\_text) % key)

    for charlist in matrix:

        for j in range(count):

            charlist.append(cypher\_text[length])

            length = length+1

        if (extra != 0):

            charlist.append(cypher\_text[length])

            length = length+1

            extra = extra-1

    for i in matrix:

        print(i)

    plain\_text = ''

    for i in range(key+1):

        for charlist in matrix:

            if i > len(charlist)-1:

                continue

            plain\_text = plain\_text + charlist[i]

    print("Decrypted text of Columnar Transposition is " + plain\_text)

string = input("Enter a string:")

col = int(input("Enter column number:"))

c2 = ColTT\_Enc(string, col)

ColTT\_Dec(c2, col)

**OUTPUT:**

