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**CLASS: TE-CO ROLL-NO.: 18CO63**

**EXPERIMENT NO. 01: PRODUCT CIPHER USING PYTHON.**

**PROGRAM:**

import string

print("\n\t\t PRODUCT CIPHER \n")

k=int(input("ENTER A KEY VALUE:"))

d=input("ENTER A STRING: ")

ct = []

alphabets = string.ascii\_uppercase

for j in d:

b=j.upper()

if b in alphabets and j.islower():

e=(alphabets.index(b)+k)%26

ct.append(alphabets[e].lower())

elif b in alphabets and j.isupper():

a=(alphabets.index(b)+k)%26

ct.append(alphabets[a].upper())

else:

ct.append(" ")

matrix = [[False for i in range(len(ct))]

for j in range(k)]

print("CIPHER TEXT: ",ct)

j=0

for i in range(len(ct)):

matrix[j][i]=ct[i]

if j == k - 1:

flag = False

elif j == 0:

flag = True

if flag == True:

j = j + 1

else:

j = j - 1

answer=[]

for key in range(k):

for text in range(len(ct)):

if matrix[key][text]!=False:

answer.append(matrix[key][text])

print("ENCRYPTED TEXT: ", answer)

**OUTPUT:**

