**ASSIGNMENT NO. 2**

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Question)

**Title :** RC4 Encryption Algorithm Implementation.

**Python Code :**

KEY=[]

CT=[]

T=[]

t=0

k=0

j=0

print()

print("\*\*\*"\*20)

print("\n1.RC4 Algorithm")

print("2.Exit")

choice=int(input("\nEnter Your Choice : "))

if(choice==1):

input1=input("\nEnter Plain Text of Numbers : ")

for i in range(0,len(input1)):

PT.append(int(input1[i]))

input1=input("\nEnter Key to Encrypt : ")

for i in range(0,len(input1)):

KEY.append(int(input1[i]))

for i in range(0,len(PT)):

S.append(i+1)

for i in range(0,len(PT)):

T.append(KEY[(i%len(KEY))])

j=0

for i in range(0,len(PT)):

j=(j+S[i]+T[i])%len(PT)

S[i],S[j]=S[j],S[i]

j=0

i=0

for b in range(0,len(PT)):

i=(i+1)%len(PT)

j=(j+S[i])%len(PT)

S[i],S[j]=S[j],S[i]

t=(S[i]+S[j])%len(PT)

k=S[t]

CT.append(k^PT[b])

print("\nPlain Text : ",PT)

print("\nCipher Text : ",CT)

print("\nPlain Text : ",end=" ")

for i in range(0,len(PT)):

print(PT[i],end="")

print("\n\nCipher Text : ",end=" ")

for i in range(0,len(CT)):

print(CT[i],end="")

print()

elif(choice==2):

break

else:

print("\nWrong Choice !!!!\n")

except:

continue

**Output:**

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1.RC4 Algorithm

2.Exit

Enter Your Choice : 1

Enter Plain Text of Numbers : 1222

Enter Key to Encrypt : 13

Plain Text : [1, 2, 2, 2]

Cipher Text : [3, 6, 3, 6]

Plain Text : 1222

Cipher Text : 3636

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