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In [1]: import math
from cryptography.fernet import Fernet

def gcd(a, h):
    temp = 0
    while(1):
        temp = a % h
        if (temp == 0):
            return h
        a = h
        h = temp

p = int( input("Enter your first prime number p: "))

q = int(input("Enter your second prime number q: "))

n = p*q
e = 2
phi = (p-1)*(q-1)

while (e < phi):

    if(gcd(e, phi) == 1):
        break
    else:
        e = e+1
k = 2
d = (1 + (k*phi))/e
print(d)

msg = 12.0

print("Message data = ", msg)

c = pow(msg, e)
c = math.fmod(c, n)
print("Encrypted data = ", c)

m = pow(c, d)
m = math.fmod(m, n)
print("Original Message Sent = ", m)

a =input("Enter you msg")

key = Fernet.generate_key()

fernet = Fernet(key)

encMessage = fernet.encrypt(a.encode())
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print("original string: ", a)
print("encrypted string: ", encMessage)

decMessage = fernet.decrypt(encMessage).decode()

print("decrypted string: ", decMessage)
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Enter your first prime number p: 2
Enter your second prime number q: 5
3.0
Message data = 12.0
Encrypted data = 8.0
Original Message Sent = 2.0
Enter you msghelloo
original string: helloo
encrypted string: b'gAAAAABkACrxJD89OFI3_4wRfKCZnN04e9Tlw4gKiDdJrKumGg6KGgHJ
FZZ5Fwzh6Yni_n2aaDZTB_yroZ_XL45wUsd085K36Q=='
decrypted string: helloo
```

In []: