Text

Description automatically generated

**T.Y.B.Tech (CSE)**

Information Security

**Lab Assignment No – B1**

**Name: Aniruddha Shende**

**Roll number: PE04**

**Batch: E1**

**Panel: E**

A picture containing letter

Description automatically generated

Diagram, letter

Description automatically generated

Letter

Description automatically generated

Text, letter

Description automatically generated

**Program Code:**

#Name : Aniruddha Shende

#Roll No : PE04

#Batch : E1

#Panel : E

from decimal import Decimal

def gcd(m,n):

if n==0:

return m

else:

return gcd(n,m%n)

#input variables

print("")

p=int(input("Enter 1st prime number : "))

if p > 1:

for i in range(2, int(p/2)+1):

if (p % i) == 0:

print(p, "is not a prime number")

quit()

q=int(input("Enter 2nd prime number : "))

if q > 1:

for i in range(2, int(q/2)+1):

if (q % i) == 0:

print(q, "is not a prime number")

quit()

no = int(input(("Input : ")))

#calculate n

n = (p\*q)

#calculate phiN

phiN = (p-1)\*(q-1)

#calculate K

for k in range(2,phiN):

if gcd(k,phiN)== 1:

break

for i in range(1,10):

x = 1 + i\*phiN

if x % k == 0:

d = int(x/k)

break

local\_cipher = Decimal(0)

local\_cipher =pow(no,k)

ct = local\_cipher % n

decrypt\_t = Decimal(0)

decrypt\_t= pow(ct,d)

dt = decrypt\_t % n

print('e = '+str(k))

print('d = '+str(d))

print('Cipher text = '+str(ct))

print('Decrypted text = '+str(dt))

**Output:**

Text

Description automatically generated