In [3]:

```
import random
import math
p = int(input("Enter the value of p = "))
q = int(input("Enter the value of q = "))
n = p * q
toitent = (p-1) * (q-1)
print("\nThe value of toitent = ", toitent)
e = 0
for i in range(2, toitent):
    if math.gcd(i, toitent) == 1:
        e = i
        break
print("\nThe value of e = ", e)
#k = 2
k = int(input("\nEnter the value of k = "))
d = int((k*toitent +1)/e)
print("The private key (d) = ", d)
c = (p**e)%n
print("\nThe value of c (encrypted data) = ", c)
p = (c**d)%n
print("The value of p (decrypted data) = ", p)
```

```
Enter the value of p = 3
Enter the value of q = 7

The value of toitent =  12

The value of e =  5

Enter the value of k = 2
The private key (d) =  5

The value of c (encrypted data) =  12
The value of p (decrypted data) =  3
```

In [ ]:

```

```