

In [1]:

```
# Both the parties will be agreed upon the public keys G and P
P = int(input("Enter a prime number (P) :")) #23
G = int(input("Enter a primitive root for P (G) :")) #9

# Alice will choose the private key a
a = int(input("Enter Alice's private key :")) #4

# get the generated key
x = int(pow(G,a,P))

# Bob will choose the private key b
b = int(input("Enter Bob's private key :")) #3

# get the generated key
y = int(pow(G,b,P))

# Secret key for Alice
ka = int(pow(y,a,P))

# Secret key for Bob
kb = int(pow(x,b,P))

print('Secret key for Alice is : ',ka)
print('Secret Key for Bob is : ',kb)
```

```
Enter a prime number (P) :23
Enter a primitive root for P (G) :9
Enter Alice's private key :4
Enter Bob's private key :3
Secret key for Alice is : 9
Secret Key for Bob is : 9
```

In []: