

In [4]:

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from random import randint

if __name__ == '__main__':

    # Both the persons will be agreed upon the
    # public keys G and P
    # A prime number P is taken
    P = 23

    # A primitive root for P, G is taken
    G = 9

    print('The Value of P is :%d'%(P))
    print('The Value of G is :%d'%(G))

    # Alice will choose the private key a
    a = 4
    print('The Private Key a for Alice is :%d'%(a))

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

    # Bob will choose the private key b
    b = 3
    print('The Private Key b for Bob is :%d'%(b))

    # gets 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 the Alice is : %d'%(ka))
    print('Secret Key for the Bob is : %d'%(kb))
```

The Value of P is :23
The Value of G is :9
The Private Key a for Alice is :4
The Private Key b for Bob is :3
Secret key for the Alice is : 9
Secret Key for the Bob is : 9

In []: