

```
test
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import java.io.*;
class test{

    // Power function to return value of a ^ b mod P
    private static long power(long private1, long private2, long public1)
    {
        if (private2 == 1)
            return private1;
        else
            return (((long)Math.pow(private1, private2)) % public1);
    }

    public static void main(String[] args)
    {
        long public1 , public2 , x, private1 , y, private2 , ka = 0, kb = 0;

        Console c = System.console();
        public1 = Integer.parseInt(c.readLine("Enter value of public key (must be prime) "));
        boolean flag = false;
        for(int i = 0; i<public1/2 ; i++)
        {
            if(public1 % 2 == 0){
                flag = true;
                break;
            }
        }

        flag = true;
        break;
    }
}
```

```
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        flag = true;
        break;
    }
}
if(!flag)
{
    public2 = Integer.parseInt(c.readLine("Enter Public key 2 (Should be primitive of public key
1) "));
    private1 = Integer.parseInt(c.readLine("Enter First private key "));
    private2 = Integer.parseInt(c.readLine("Enter second private key "));
    y = power(public2, private2, public1);
    x = power(public2, private1, public1);
    ka = power(y, private1, public1); // Secret key for Alice
    kb = power(x, private2, public1); // Secret key for Bob
    System.out.println("Secret key for the Alice is:" + ka);
    System.out.println("Secret key for the Bob is:" + kb);
}
else
{
    System.out.println("Please enter prime number");
}
}
}
```

Output:

```
C:\Windows\System32\cmd.e x + v
Microsoft Windows [Version 10.0.22621.1413]
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C:\demo\clgpract>javac test.java

C:\demo\clgpract>java test
Enter value of public key (must be prime) 5
Enter Public key 2 (Should be primitive of public key 1) 7
Enter First private key 13
Enter second private key 11
Secret key for the Alice is:3
Secret key for the Bob is:3

C:\demo\clgpract>
```

