**Practical no -6 Roll no -05,46**

import java.util.\*;

import java.math.BigInteger;

public class DHA{

public static void main(String args[])

{

Scanner sc=new Scanner(System.in);

BigInteger n,g,x,y,k1,k2,A,B;

System.out.println("Enter 2 prime numbers:");

n=new BigInteger(sc.next());

g=new BigInteger(sc.next());

System.out.println("Person A:Enter your Secret no:");

x=new BigInteger(sc.next());

A=g.modPow(x,n);

System.out.println("Person B:Enter your Secret no:");

y=new BigInteger(sc.next());

B=g.modPow(y,n);

k1=B.modPow(x,n);

k2=A.modPow(y,n);

System.out.println("A's Secret key "+k1);

System.out.println("B's Secret key "+k2);

}

}

**Output:**

**D:\TYCS\INS>javac DHA.java**

**D:\TYCS\INS>java DHA**

**Enter 2 prime numbers:**

**3**

**5**

**Person A:Enter your Secret no:**

**4**

**Person B:Enter your Secret no:**

**6**

**A's Secret key 1**

**B's Secret key 1**