

AIM: To implement Diffie Helman Key Exchange Algorithm Program

```
packagediffie.helmanalgo;
importjava.util.Scanner;
public class DiffieHelmanAlgo
{
public static double alice(double n,doubleg,double x)
{
double a,a1;
    a1 = Math.pow(g,x);
    a=a1%n;
return(a);
}
public static double bob(double n,doubleg,double y)
{
double b,b1,k2,t2;
    b1= Math.pow(g,y);
    b=b1%n;
return(b);
}
public static void main(String[] args)
{
double g,x,y,a,b,k1,k2,n;
    Scanner input = new Scanner(System.in);
System.out.print("Enter value of n=>");
    n = input.nextDouble();
System.out.print("Enter value of g=>");
    g = input.nextDouble();
System.out.print("\nEnter value of x=>");
    x = input.nextDouble();
System.out.print("\nEnter value of y=>");
    y = input.nextDouble();
    a = alice(n,g,x);
System.out.println("alice end value:"+a);
    b=bob(n,g,y);
System.out.println("bob end value:"+b);
    k1=alice(n,b,x);
System.out.println("valueof k1 :"+k1);
    k2=alice(n,a,y);
System.out.println("valueof k2 :"+k2);
}
}
```

Output

