**PRACTICAL NO : 5**

**AIM: Write a program to implement the Diffie-Hellman key Agreement algorithm to generate symmetric keys.**

**CODE:**

import java.util.\*;

public class DiffieHellmen {

public static void main(String [] args){

Scanner sc=new Scanner(System.in);

System.out.println("Enter a prime no q:");

int q=sc.nextInt();

System.out.println("Enter primitive Root alpha such that alphabet<q");

int alpha=sc.nextInt();

System.out.println("Enter the value of Xa");

int Xa=sc.nextInt();

System.out.println("Enter the value of Xb");

int Xb=sc.nextInt();

int Ya=(int)((Math.pow(alpha,Xa))%q);

int Yb=(int)((Math.pow(alpha,Xb))%q);

int Ka=(int)((Math.pow(Yb,Xa))%q);

int Kb=(int)((Math.pow(Ya,Xb))%q);

if (Ka==Kb)

{

System.out.println("Keys matched");

}

else

{

System.out.println("Keys not matched!!!");

}

}

}

**OUTPUT:**





