OOJ LAB

1) Develop a java program that prints all real solutions to quadratic equation ax^2+bx+c=0. And show all the cases

```
//Quadratic equation Java program
import java.util.*;

public class quadeqn
{
  public static void main(String[] args)
  {
   Scanner sc = new Scanner(System.in);
   double a,b,c,D;
   System.out.println("Enter the values of coefficients");
   a=sc.nextDouble();
   b=sc.nextDouble();
   c=sc.nextDouble();
   D=(b*b-4*a*c);

   double r1,r2;
   if(a!=0)
   {
    if(D>0)
    {

    r1=(-b + Math.sqrt(D))/(2*a);
    r2=(-b - Math.sqrt(D))/(2*a);
    System.out.println("Distinct and  roots are :"+ " "+r1+  " "+r2);
    }
    else if(D<0)
```

```
    {
    System.out.println("Roots are imaginary ");
    }
    else
    {
    r1=r2=(-b/(2*a));
    System.out.println("equal roots are :"+" "+r1+ " "+r2);
    }
   }
 }
}
```

```
C:\Users\BMSCECSE\Desktop>javac quadeqn.java

C:\Users\BMSCECSE\Desktop>java quadeqn
Enter the values of coefficients
1
2
1
equal roots are : -1.0 -1.0

C:\Users\BMSCECSE\Desktop>javac quadeqn.java

C:\Users\BMSCECSE\Desktop>java quadeqn
Enter the values of coefficients
1
2
3
Roots are imaginary
```

```
Enter the values of coefficients
1 -4 2
Distinct and  roots are : 3.4142135623730951 0.5857864376269049

C:\Users\BMSCECSE\Desktop>
```