```
import java.util.scanner;
class equation
{

  public static void main (string args[]){
      double x1=0, x2=0;
      Scanner root= new Scanner (System.in);
      System.out.print ("Enter the value of a
                          in ax^2+bx+c=0:");
      double a= root.nextDouble();
      System.out.print ("Enter the value of b in
                          ax^2 +bx +c=0:");
      double b= root.nextDouble();
      System.out.print ("Enter the value of c
                          in ax^2 +bx +c=0:");
      double c= root.nextDouble();
      double n=2*a;
      double D=(b*b)-4*a*c;
      if (D>0)
      {
        System.out.println ("solutions real and
                             distinct");
        x1= ((-b+ Math.sqrt(D))/n);
        x2= ((-b- Math.sqrt(D))/n);
        System.out.println ("solutions are");
```

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```
        System.out.println(r1);
        System.out.println(r2);
    }
    else if (D==0)
    {
        System.out.println("solution real and
                                equal");
        r1 = r2 = -b/n;
        System.out.println("solutions are");
        System.out.println(r1);
        System.out.println(r2);
    }

    else
    {
        System.out.println("No real solutions");
    }
}
```

ALGORITHM:-

Step 1: Input a, b, C values of equation ax^2+bx+C

Step 2: SET $D = b^2 - 4ac$

Step 3: If $D>0$, print Real solutions and discrete

root 1 = $-b+\sqrt{D}/2a$

root 2 = $-b-\sqrt{D}/2a$

Step 4: If $D=0$, print solution real and equal

root 1 = root 2 = $-b/2a$

Step 5: else print NO real solution

Step 6: END.