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1BM22CS231

~~import java.util.~~

1) Quadratic Equation

```
import java.util.Scanner;
    class Quadratic {
        int a, b, c;
        double r1, r2, d;
        void getd() {
            Scanner ~~sc~~ = new Scanner (System.in);
            ~~System.out.println(&quot~~
            System.out.println("Enter the co-efficients
              of a, b, c");
            a = s.nextInt();
            b = s.nextInt();
            c = s.nextInt();
        }
        void computer()
        {     while (a==0)
            { System.out.println("Not a quadratic
                equation");
              System.out.println("Enter a non zero
                value for a:");
              Scanner s = new Scanner(System.in);
              a = s.nextInt();
            }
            d = b*b - 4*a*c;
            if (d==0)
            {   r1 = (-b)/(2*a);
            System.out.println("Roots are real
                and equal");
```

```
        System.out.println ("Root1 = Root2 =" + r1);
      }
      else if (d>0)
      {   r1 = ((-b)+(Math.sqrt(d)))/(double)(2*a);
          r2 = ((-b)-(Math.sqrt(d)))/(double)(2*a);
          System.out.println ("Roots are real and distinct");
          System.out.println ("Root1="+r1+"Root2="+r2);
      }
      else if (d<0)
      {   System.out.println ("Roots are imaginary");
          r1 = (-b)/(2*a);
          r2 = Math.sqrt(-d)/(2*a);
          System.out.println ("Root1="+r1+"i"+i+""+r2);
          System.out.println ("Root1="+r1+""-i+" "+r2);
      }
    }
  }
}
class QuadraticMain
{   public static void main (String args[])
    {   Quadratic q = new Quadratic();
        q.getd();
        q.compute();
        System.out.println ("Sagar Bangari - 1BM22CS231");
    }
}
```

OW FW

1

-4

4

Roots are Root 1 = 2 and Root 2 = 2

1

-2

4

Roots are imaginary

1

-5

6

Roots are Root 1 = 2 and Root 2 = 3