classmate
Date
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PRA 12-12-23

1. Program Hello world.

```
class hello
{
    public static void main (String args[])
    {
        System.out.println("hello world");
    }
}
```

Output:
hello world.

Lab - Program 1

```
import java.util.Scanner;
class Quadratic
{
 Scanner s=new Scanner(System.in);
 int a,b,c;
 double r1,r2,d;
 void getd()
 {
    System.out.println("Praneeta M Reddy, 1BM22CS205");
    System.out.println("enter the coefficients of a,b,c");
    a=s.nextInt();
    b=s.nextInt();
    c=s.nextInt();
 }
 void compute()
 {
    while(a==0)
    {
      System.out.println("not a quadratic equation");
      System.out.println("enter a non zero value for a:");
      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)
    {
        r1 = (-b) / (2 * a);
        r2 = (Math.sqrt(d)) / (2 * a);
        System.out.println("roots are imaginary");
        System.out.println("root1=" + r1 + "i" + r2);
        System.out.println("root2" + r1 + "-i" + r2);
    }
  }
}
class QuadraticMain
{
  public static void main(String args[])
  {
    Quadratic q = new Quadratic();
    q.getd();
    q.compute();
  }
}
```

Output:

Paaneeta M Reddy, 1BM22CS205

enter the coefficients of a, b, c

1

-5

2

roots are real and distinct

root1 = 4.561552812 8 root2 = 4.561552812 8

Output 2:

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enter the coefficients of a, b, c

1 2 1

roots are real and equal

root1 = root 2 = -1.0

Output 3:

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enter the coefficents of a, b, c

0 4 5

not a quadratic equation

enter a non zero value for a:

1

roots are imaginary

root1 = -2.0 + iNaN

root2 = -2.0 - iNaN