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LAB 1

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Quadratic equation

```
import java.util.Scanner;
```

```
public class quadEquation {
```

```
static double findDiscriminante(float a, float b, float c) {
```

```
double D =  $b*b - (4*a*c)$ ;
```

```
return D;
```

```
}
```

```
static void checkD(float a, float b, double D) {
```

```
if(a==0)
```

```
System.out.println("Not a valid quadratic equation");
```

```
else if (D < 0)
```

```
{ System.out.println("The roots are imaginary");
```

```
System.out.println("The imaginary roots are " +  $(-b/2*a) +$   
"i" +  $(\text{Math.sqrt}(-D)/(2*a))$  + "and" +  $(-b/2*a) +$  "i"  
+  $(\text{Math.sqrt}(-D)/(2*a))$  );
```

```
}
```

```
else
```

```
{ double r1 =  $(-b + \text{Math.sqrt}(D)) / (2*a)$ ;
```

```
double r2 =  $(-b - \text{Math.sqrt}(D)) / (2*a)$ ;
```

```
System.out.println("The roots are" + r1 + "and" + r2);
```

```
}
```

```
}
```



```
public static void main (String args[]) {
```

```
Scanner s = new Scanner (System.in);
```

```
System.out.println ("The equation is of the form  $ax^2+bx+c$ .");  
System.out.println ("Enter the value of a, b and c respectively.");
```

```
float a = s.nextFloat();
```

```
float b = s.nextFloat();
```

```
float c = s.nextFloat();
```

```
double D = findDiscriminate (a, b, c);
```

```
checkD (a, b, D);
```

```
}
```

```
}
```