

```
import java.util.Scanner;

class deploy{

public static void main(String xx[]){

    int a,b,c;
    Scanner s=new Scanner(System.in);
    System.out.println("Enter the coefficients a,b,c\n");
    a=s.nextInt();
    b=s.nextInt();
    c=s.nextInt();
    double des=(b*b)-(4*a*c);
    double root1,root2;
    if(a==0){System.out.println("The equation is not quadratic\n");}
    else if(des>0){

        root1=-b+Math.sqrt(des);
        root2=-b+Math.sqrt(des);

        System.out.println("The roots are real and distinct\nRoot 1:"+root1+"\nroot 2:"+root2);
    }
    else if(des==0){
        root1=root2=-b/(2*a);
        System.out.println("The roots are real and equal\nRoot1:"+root1+"\nRoot2:"+root2);
    }
    else{
        root1=-b/(2*a);
        root2=Math.sqrt(Math.abs(des));

        System.out.println("The roots are imaginary\nRoot1:"+root1+"i"+root2+"\nRoot2:"+root1+"-i"+root2);
    }
}
}
```

Command Prompt

```
C:\Users\Admin\Desktop\1BM21CS025>java deploy  
Enter the coefficients a,b,c
```

```
1 2 1
```

```
The roots are real and equal
```

```
Root1:-1.0
```

```
Root2:-1.0
```

```
C:\Users\Admin\Desktop\1BM21CS025>java deploy  
Enter the coefficients a,b,c
```

```
1 1 1
```

```
The roots are imaginary
```

```
Root1:0.0+i1.7320508075688772
```

```
Root2:0.0-i1.7320508075688772
```

```
C:\Users\Admin\Desktop\1BM21CS025>java deploy  
Enter the coefficients a,b,c
```

```
1 4 1
```

```
The roots are real and distinct
```

```
Root 1:-0.5358983848622456
```

```
root 2:-0.5358983848622456
```

```
C:\Users\Admin\Desktop\1BM21CS025>java deploy  
Enter the coefficients a,b,c
```

```
0 0 0
```

```
The equation is not quadratic
```

```
C:\Users\Admin\Desktop\1BM21CS025>|
```