

Quadratic Equation

```
import java.util.*;
class QuadraticEquation
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.println("Quadratic Equation of  
form  $ax^2 + bx + c$ );  
System.out.println("enter the values of a, b & c  
respectively");

        double int a = sc.nextInt();
        double int b = sc.nextInt();
        double int c = sc.nextInt();
        while(a != 0)
        {
            double float D = (b*b) - (4*a*c);
            System.out.println("the
            if (D == 0)
            {
                double float x = (b*b)/(2*a);
                System.out.println("the roots are real, equal  
and is equal to "+x);
                break;
            }
        }
    }
}
```

```
}  
else if (D > 0)
```

```
{
```

```
    double float ra = (-b + (b*b - 4*a*c)^(1/2)) / (2*a);  
    double float rb = (-b - (b*b - 4*a*c)^(1/2)) / (2*a);
```

```
    System.out.println("the roots are real, unequal  
                        and are equal to "+ra+" & "  
                        +rb);
```

```
    break ;
```

```
}
```

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

```
{
```

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

```
    break ;
```

```
}
```

```
}
```

```
}
```

```
}
```


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```
import java.util.*;
class QuadraticEquation
{
public static void main(String[] args)
{
Scanner sc=new Scanner (System.in);
System.out.println("Quadratic Equation of form ax^2+bx+c");
System.out.println("enter the values of a, b & c respectively");
double a= sc.nextDouble();
double b= sc.nextDouble();
double c= sc.nextDouble();
while(a!=0)
{
double D= (b*b)-(4*a*c);
if(D==0)
{
double x=(-1*b)/(2*a);
System.out.println("the roots are real, equal and are equal to "+ x);
break;
}
else if(D>0)
{
double xa=(-1*b+Math.sqrt(D))/(2*a);
double xb=(-1*b-Math.sqrt(D))/(2*a);
System.out.println("the roots are real, unequal and are equal to "+ xa +" & "+ xb);
break;
}
else if(D<0)
{
System.out.println("the roots are imaginary");
break;
}
}
}
}
```


C:\Windows\system32\cmd.exe

Microsoft Windows [Version 6.3.9600]

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C:\Users\user2\Documents\JAVA\WORK SPACE>java QuadraticEquation

Quadratic Equation of form ax^2+bx+c

enter the values of a, b & c respectively

1

-2

1

the roots are real, equal and are equal to 1.0

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Quadratic Equation of form ax^2+bx+c

enter the values of a, b & c respectively

4

4

1

the roots are real, equal and are equal to -0.5

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C:\Users\user2\Documents\JAVA\WORK SPACE>java QuadraticEquation

Quadratic Equation of form ax^2+bx+c

enter the values of a, b & c respectively

1

1

1

the roots are imaginary

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Quadratic Equation of form ax^2+bx+c

enter the values of a, b & c respectively

4

4

1

the roots are real, equal and are equal to -0.5

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