

```
Roots - Notepad
File Edit Format View Help
import java.util.*;
class Roots
{
    public static void main(String args[])
    {
        int a,b,c,d,f=0;
        Scanner scr=new Scanner(System.in);
        System.out.println("\nEnter the values of a ,b ,c : ");
        a=scr.nextInt();
        b=scr.nextInt();
        c=scr.nextInt();
        d=(b*b)-(4*a*c);
        if(d==0)
        {
            System.out.println("Roots are real and Equal");
            f=1;
        }
        else if(d>0)
        {
            System.out.println("Roots are real and UnEqual");
            f=1;
        }
        else
        System.out.println("Roots are imaginary");
        if(f==1)
        {
            // ...
        }
    }
}
```

Ln 1, Col 2 130% Windows (CRLF) UTF-8 10:52 29-09-2020 23

```
Scanner scr=new Scanner(System.in);
System.out.println("\nEnter the values of a ,b ,c : ");
a=scr.nextInt();
b=scr.nextInt();
c=scr.nextInt();
d=(b*b)-(4*a*c);
if(d==0)
{
    System.out.println("Roots are real and Equal");
    f=1;
}
else if(d>0)
{
    System.out.println("Roots are real and UnEqual");
    f=1;
}
else
System.out.println("Roots are imaginary");
if(f==1)
{
    float r1=(float)(-b+Math.sqrt(d))/(2*a);
    float r2=(float)(-b-Math.sqrt(d))/(2*a);
    System.out.printf("Roots are : %.4f and %.4f",r1,r2);
}
}
```

}

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Ln 32, Col 2

130%

Windows (CRLF)

UTF-8

```
G:\bin\Programs>
G:\bin\Programs>java Roots
Enter the values of a ,b ,c :
1 4 6
Roots are imaginary
G:\bin\Programs>java Roots
Enter the values of a ,b ,c :
3 12 12
Roots are real and Equal
Roots are : -2.0000 and -2.0000
G:\bin\Programs>
G:\bin\Programs>java Roots
Enter the values of a ,b ,c :
2 4 -2
Roots are real and UnEqual
Roots are : 0.4142 and -2.4142
G:\bin\Programs>
```



QUADRATIC EQUATION

```
import java.util.*;  
class Roots
```

```
{
```

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

```
    {
```

```
        int a, b, c, d, f = 0;
```

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

```
        System.out.println ("Enter the values");
```

```
        a = sc.nextInt();
```

```
        b = sc.nextInt();
```

```
        c = sc.nextInt();
```

```
        d = (b*b) - (4*a*c);
```

```
        if (d == 0)
```

```
        {
```

```
            System.out.println ("Roots are real and  
equal"); f = 1;
```

```
        }
```

```
        else if (d > 0)
```

```
        {
```

```
            System.out.println ("Roots are real and  
unequal");  
            f = 1;
```

```
        }
```

```
        else
```

```
        {
```

```
            System.out.println ("Roots are imaginary");
```

```
        }
```

```
        else if (f == 1)
```

```
        {
```

```
            float r1 = (float)(-b + Math.sqrt(d)) /  
                        (2*a);
```

```
            float r2 = (float)(-b - Math.sqrt(d)) /  
                        (2*a);
```

```
            System.out.println ("Roots are : %.4f  
" + r1 + " , " + r2); and : %.4f, " + r1, r2);
```

```
        }
```

```
    }
```

```
}
```


OUTPUT

Enter the values

1 4 6

Roots are imaginary.

Enter the values

3 12 12

Roots are real and equal

Roots are : $-2.0, -2.0$.

Enter the values

2 4 -2

Roots are real and unequal

Roots are : $0.4142, -2.4142$.