

```
1 import java.util.Scanner;
2 import java.lang.*;
3
4 class Roots
5 {
6     public static void main(String args[])
7     {
8         double a,b,c,r1,r2,del;
9         Scanner ss=new Scanner(System.in);
10        System.out.println("\nEnter the Values of a,b,c for a Quadratic equation :\n");
11        a=ss.nextFloat();
12        b=ss.nextFloat();
13        c=ss.nextFloat();
14        del=(b*b-4*a*c);
15        if(a==0)
16        {
17            System.out.println("a cannot be equal to zero\n");
18            System.exit(0);
19        }
20        else
21        {
22            System.out.println("a is a real value\n");
23        }
24        if(del==0)
25        {
26            System.out.println("Roots are real and equal\n");
27            r1=(-b/(2*a));
28            r2=(-b/(2*a));
29            System.out.println("Roots are : \n "+r1+", " +r2);
30        }
31
32        else if(del>0)
33        {
34            System.out.println("Roots are real and unequal\n");
35            r1=(-b+Math.sqrt(del))/(2*a);
36            r2=(-b-Math.sqrt(del))/(2*a);
37            System.out.println("Roots are : \n "+r1+", " +r2);
38        }
39        else
40        {
41            System.out.println("There are no Real Solutions\n");
42        }
43    }
44}
45
```

## Command Prompt

```
22-01-2020 12:56          2,457 Excel.lnk
12-05-2020 15:40          2,088 Google Docs.lnk
12-05-2020 15:40          2,096 Google Sheets.lnk
12-05-2020 15:40          2,096 Google Slides.lnk
05-02-2020 19:55          2,251 Hotstar.lnk
04-04-2020 15:48      <DIR>          icc wc 19
03-04-2020 16:03      <DIR>          IPL 2019
28-09-2020 20:35      <DIR>          JAVA
09-02-2020 14:19          2,233 JioTV.lnk
19-09-2017 10:36          673 KMPlayer.lnk
28-09-2020 23:25      <DIR>          New folder
13-04-2020 20:52          2,213 Prime Video.lnk
23-09-2020 16:33      <DIR>          Project Work
07-01-2020 19:46          901 TurboC++ for Windows 7.lnk
05-06-2020 16:47          27,394,709 ULLAS 1BM19ET061 PHYSICS RECORD(SECTION CN).pdf
18-09-2020 18:18          1,399 Visual Studio Code.lnk
03-04-2020 16:12      <DIR>          VIVO
04-04-2020 15:31      <DIR>          WC 19
02-04-2020 16:01          897 µTorrent.lnk
    16 File(s)   31,783,007 bytes
    12 Dir(s)  130,407,411,712 bytes free
```

```
C:\Users\DELL\Desktop>cd JAVA
```

```
C:\Users\DELL\Desktop\JAVA>dir
Volume in drive C is OS
Volume Serial Number is F7A7-78E0
```

```
Directory of C:\Users\DELL\Desktop\JAVA
```

```
28-09-2020 20:35      <DIR>          .
28-09-2020 20:35      <DIR>          ..
29-09-2020 09:37          1,444 Roots.class
28-09-2020 20:09          1,006 Roots.java
    2 File(s)   2,450 bytes
    2 Dir(s)  130,349,367,296 bytes free
```

```
C:\Users\DELL\Desktop\JAVA>javac Roots.java
```

```
C:\Users\DELL\Desktop\JAVA>java Roots
```

```
Enter the Values of a,b,c for a Quadratic equation :
```

```
1 -4 4
```

```
a is a real value
```

```
Roots are real and equal
```

```
Roots are :
2.0,2.0
```

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Enter the Values of a,b,c for a Quadratic equation :
```

```
1 6 8
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There are no Real Solutions

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C:\Users\DELL\Desktop\JAVA>java Roots

Enter the Values of a,b,c for a Quadratic equation :

0 1 2

a cannot be equal to zero

C:\Users\DELL\Desktop\JAVA>