

Program to find the roots of a quadratic equation

```
import java.lang.Math;
class quad
{
    public static void main(String ar[])

    { float a,b,c,d;
      double d1,r1,r2;

      a=Float.valueOf(ar[0]).floatValue();
      b=Float.valueOf(ar[1]).floatValue();
      c=Float.valueOf(ar[2]).floatValue();

      d=b*b-4*a*c;

      if(d<0)
          System.out.println("NO real roots");
      else if(d==0)
          { System.out.println("Equal roots");
            r1=-b/(2*a);
            System.out.println("Roots are: "+ r1 + ","+ r1);
          }
      else
          { System.out.println("Real roots");
            d1=Math.sqrt(d);
            r1=-b+d1/(2*a);
```

```
        r2=-b-d1/(2*a);
    System.out.println("Roots are: "+ r1 + ","+ r2);
    }
}
}
```

Output:

```
C:\Documents and Settings\Administrator\Desktop\java\4-08c>javac quad.java
C:\Documents and Settings\Administrator\Desktop\java\4-08c>java quad 1 2 4
NO real roots
C:\Documents and Settings\Administrator\Desktop\java\4-08c>javac quad.java
C:\Documents and Settings\Administrator\Desktop\java\4-08c>java quad 1 4 4
Equal roots
Roots are: -2.0,-2.0
```