Quadratic equation:

Code:

```
import java.util.*;
import java.lang.*;
class quadraticequation{
   public static void main(String args[])
{
Scanner in=new Scanner(System.in);
 double a,b,c,d,root1,root2;
System.out.println("Enter A,B and C");
a=in.nextDouble();
b=in.nextDouble();
c=in.nextDouble();
d=b*b-4*a*c;
if(d==0)
System.out.println("Roots are Real and Similar \n Root is"+(-b)/(2*a));
if(d>0)
{
   root1=(-b+Math.sqrt(d))/(2*a);
   root2=(-b-Math.sqrt(d))/(2*a);
   System.out.println("Roots are Real and Distinct"+root1+"and"+root2);
}
if(d<0)
{
            root1=-b/(2*a);
            root2=Math.sqrt(-d)/(2*a);
            System.out.println("Roots are imaginary "+root1+"+"+root2+"i and "+root1+"-"+root2+"i");



}}}
```

Output:

```
Microsoft Windows [Version 10.0.18362.175]
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C:\Users\hp>cd C:\OOJ-lab-programs

C:\OOJ-lab-programs>java quadraticequation
Enter A,B and C
1
2
-15
Roots are Real and Distinct3.0and-5.0

C:\OOJ-lab-programs>java quadraticequation
Enter A,B and C
1
2
1
Roots are Real and Similar
 Root is-1.0

C:\OOJ-lab-programs>java quadraticequation
Enter A,B and C
1
2
3
Roots are imaginary 1.4142135623730951+-1.0i and 1.4142135623730951--1.0i

C:\OOJ-lab-programs>
```