Week 3

```
import java.util.*;
public class QuadRoots {

public static void main(String[] args) {


double root1, root2;
Scanner in = new Scanner(System.in);

System.out.println("Enter value for a  :");
double a = in.nextFloat();
System.out.println("Enter value for b  :");
double b = in.nextFloat();
System.out.println("Enter value for c  :");
double c = in.nextFloat();


double determinant = b * b - 4 * a * c;

if(determinant > 0) {
root1 = (-b + Math.sqrt(determinant))  /(2 * a);
root2 = (-b - Math.sqrt(determinant))  /(2 *
```

```
a);

System.out.format("root1 = %.2f and root2 = %.2f", root1   root2);
        }
else if(determinant == 0) {
root1 = root2 = -b   (2 * a);

System.out.format("root1 = root2 = %.2f;", root1);
        }
else {
double realPart = -b   (2 *a);
double imaginaryPart = Math.sqrt(-determinant)   (2 * a);

System.out.format("root1 = %.2f+%.2fi and root2 = %.2f-%.2fi", realPart,
imaginaryPart, realPart, imaginaryPart);
System.out.println("----This quadratic equation has no real roots----");
        }
    }
}
```