WEEK 1:

Develop a Java program that prints all real solutions to the quadratic equation ax2+bx+c=0. Read in a, b, c and use the quadratic formula. If the discriminate b2-4ac is negative, display a message stating that there are no real solutions.

Source Code:

```
import java.util.Scanner;
class Quadratic {
   float d;
    Scanner sc = new Scanner(System.in);
    void solver()
        System.out.println("enter the values of a,b, and c");
        int a = sc.nextInt();
        int b = sc.nextInt();
        int c = sc.nextInt();
        if (a == 0) {
            System.out.println("invalid equation");
        else{
            d= b*b - 4*a*c;
            System.out.println(d);
            System.out.println("the solutions are");
            if(d>0){
                System.out.println("roots are unique ");
                double r1 = (-b+Math.sqrt(d))/(2*a);
                double r2 = (-b-Math.sqrt(d))/(2*a);
                System.out.println(r1 +" " + r2);
            if(d==0){
                System.out.println("roots are equal ");
                double r = -b/(2*a);
                System.out.println(r);
            if(d<0){
                System.out.println("There are no real roots" );
```

```
public class Main {
    public static void main(String[] args) {
        Quadratic q1 = new Quadratic();
        q1.solver();
    }
}
```

```
D:\shreyas achar\web_dev>javac quad.java
D:\shreyas achar\web_dev>java quad
Enter the values a, b and c:
1 2 1
0.0
Roots are equal
D:\shreyas achar\web_dev>java quad
Enter the values a, b and c:
2 5 3
1.0
Roots are unique
-1.0 -1.5
D:\shreyas achar\web_dev>java quad
Enter the values a, b and c:
1 2 3
-8.0
```

Written Code & Output:

```
Devolp a Java program that prints all real solution to quadrate
Devolp a Java program that prints all use anodego formula of compation ar2+bx+c=0. Record in a,b,c and use anodego formula of countries that there of
 discriminate is negitive display a method stating that there are
 import java. util. Scanner:
class quadratic f
    floatd;
    Scanner sc = new Scanner (System in);
    void check ()
     System.out. println ("Enter the values a, band e");
     int a = sc. nextInt():
     int b = sc . next [nt();
     int e = sc . next Int();
     if (a==0){
       System out println ("invalid equation"); }
     else ?
       d= b*b-4*a*c;
       System.out. println(d);
       if (d >0) }
         Bystem.out. println (" roots are unquie");
         double 11= (-b+math, sqrt (d)) 15 *a);
        double 72 = (-b-math.sqrt(d)) /(2*a);
        System. out. println(71 + "+ 82);
      if (d==0) 9
         system.out. println ("roots are equal");
         System.out. printin (-b/(2*a));
```

system. out. println ("roots are imaginary"); double 11 = math syrt(-d) /(a+a); double 72 = (-b) 1(2*a); blic class (gpa) System.out. println (+2+";"++1+""++2+"-i"++1); deanner te new searner (Egiton in) System out printle Enter the number of subjects?); Otalista is adulmun ini public class main grant shoots and - string shorp thereob Public static void main (string [] angs) { states to quadratic q1 = new quadratic(); Into I do f (++i; iduzmun xi; 0=i dni) rod 91. check es System out print l'Enter the grade points of subject the ground points file scanner, next Double (1)) Enter value of a, b, c. D'Enter value of a, b, c. 50, 100 50 2,5 3 tal 100 a. cano 50 50 : lilatibon of lilating 2000p 2+3tos roots are equal ilimiter Invalid equation 121 double egga: total / totalcredits; 4) Enter value of abic. 3) Enter values of a,b,c 0,50,50 2 3 2,5,3 700t -8.0 roots are imaginar 1,0 roots are unquie. -1+i1.4 -1,-i1