CSE110 Review Questions

Prepared by Ryan Dougherty

Methods

Question 1 Write a boolean method called allDifferent that takes 3 int numbers and returns true if the numbers are all different, and false otherwise.

Question 2 Write a boolean method called isPrime that takes in an int number, and returns true if the number is prime, and false otherwise.

Question 3 Write the output generated by the following program:

```
public class Two {
        private double real, imag;

        public Two(double initReal, double initImag) {
                real = initReal;
                imag = initImag;
        }

        public double getReal() {
                return real;
        }

        public double getImag() {
                return imag;
        }

        public Two mystery(Two rhs) {
                Two temp = new Two(getReal() + rhs.getReal(), getImag() + rhs.getImag(
                return temp;
        }
}

public class Test {
        public static void main(String[] args) {
                Two a = new Two(1.2, 3.4);
                Two b = a.mystery(a);
                Two c = b.mystery(b);

                System.out.println("1. " + a.getReal());
                System.out.println("2. " + a.getImag());
                System.out.println("3. " + b.getReal());
                System.out.println("4. " + b.getImag());
                System.out.println("5. " + c.getImag());
        }
}
```

Question 4 Using these 2 classes, write the output of the following program:

```
public class CDPlayer {
        private int totalTime;

        public CDPlayer() {
                totalTime = 0;
        }

        public int totalPlayTime() {
                return totalTime;
        }

        public void play(CDTrack aTrack) {
                totalTime += aTrack.getPlayTime();
        }
}

public class CDTrack {
        private String myTitle;
        private int myPlayTime, myTimesPlayed;

        public CDTrack(String trackTitle, int playTime) {
                myTitle = trackTitle;
                myPlayTime = playTime;
                myTimesPlayed = 0;
        }

        public int getPlayTime() {
                return myPlayTime;
        }

        public void wasPlayed() {
                myTimesPlayed++;
        }

        public String toString() {
                String result = "";
                int minutes = myPlayTime / 60;
                int seconds = myPlayTime % 60;
                result += myTitle + " " + minutes + ":" + seconds;
                result += " #plays = " + myTimesPlayed;
                return result;
        }
}

public class RunCDPlayer {
        public static void main(String[] args) {
                CDTrack t1 = new CDTrack("Day Tripper", 150);
                CDTrack t2 = new CDTrack("We Can Work it Out", 200);
                CDTrack t3 = new CDTrack("Paperback Writer", 138);

                CDPlayer diskPlayer = new CDPlayer();
                t1.wasPlayed();
                diskPlayer.play(t1);
```

```
                t2.wasPlayed();
                diskPlayer.play(t2);
                t1.wasPlayed();
                diskPlayer.play(t1);

                System.out.println(t1.toString());
                System.out.println(t2.toString());
                System.out.println(t3.toString());
                System.out.println("Totak play time: " + (diskPlayer.totalPlayTime() /
        }
}
```