

# CSE110 Review Questions

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## 1 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() /
    }
}

```