CS 113 MIDTERM EXAM 2

There are 13 questions on this test. The value of each question is:

1-10 multiple choice
11-12 coding problems

You may get partial credit for questions 11-12. If you finish early, use the extra time to double check your work. You may not use notes, books or electronic devices of any sort. All cell phones and other mobile devices must be turned off during the exam.

Good luck!

Name_____Student ID _____

Section _____

Answers for Questions 1 to 10

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10

EXAM SCORES

Q1-Q10	Q11	Q12	Q13	TOTAL

Question 1 - In the following array, what is the value of `numbers.length`?

```
double[][] numbers={{3.00, 3.50, 4.00, 5.00},{6.35, 7.35, 8.35, 9.00}};
```

a. 1
b. 2
c. 4
d. 8
e. None of the above

Question 2 - What will the value of x be after the switch statement executes?

```
int x=10;
switch (x%6)    {
            case 0 : x += 1;break;
            case 1 : x += 4;break;
            case 2 : x += 3;break;
            case 3 : x++;break;
            case 4 : x += 2;break;
            case 5 : x -=2;break;
            case 6 : x++;break;
        }
```

a. 14
b. 11
c. 6
d. 12
e. None of the above

Question 3 - Which of the following methods is a static method? The class in which the method is defined is given in parentheses following the method name.

a. equals (String)
b. toUpperCase (String)
c. nextInt (Random)
d. sqrt (Math)
e. None of the above

Question 4 – What is true about arrays?

a. Arrays are primitive data types
b. Arrays can only store store objects
c. Arrays can store integers if they have 2 dimensions
d. Arrays are primitive data if the type stored in the array is a primitive data type and objects otherwise
e. None of the above

Question 5 – Two overloaded methods must

a. return the same data
b. have the same number of parameters
c. have same parameter lists but different names
d. have different number of or type of parameters
e. None of the above

Question 6 – What is the value of `count` after the following code is executed?

```
int count=1;
for (boolean done=false; !done; count++){
   if (count>3)
         done=true;
}
```

a. 2
b. 5
c. 4
d. 3
e. None of the above

Question 7 – What does the following code do? Assume `list` is an array of `int` values, `temp` is some previously initialized `int` value, and `c` is an `int` initialized to 0.

```
for (int j = 0; j < list.length; j++)
   if (list[j] < temp) c++;
```

a. It finds the smallest value and stores it in temp
b. It finds the largest value and stores it in temp
c. It counts the number of elements equal to the smallest value in the list
d. It counts the number of elements in list that are less than temp
e. None of the above

Question 8 - In the following code, what is the printout?

```
public class Quest8 {
public static void main(String[] args) {
   int[] x = {1, 2, 3};
   int[] y = {3, 2, 1};
   swap(x[0],y);
   System.out.print(x[0]+","+x[1]+","+x[2]+","+y[0]+","+ y[1]+","+y[2]);
}

public static void swap(int a, int[] b) {
      int temp=a;
      a=b[1];
      b[1]=temp;
      }
}
```

a. 1,2,3,3,1,1
b. 2,2,3,1,2,1
c. 1,2,3,3,2,1
d. 3,2,3,1,1,1
e. None of the above

Question 9 - Which of the following is a legal way to declare and instantiate an array of ten `Strings`?

a. `String s = new String(10);`
b. `String [10] s = new String;`
c. `String s=new String[10];`
d. `String[] s = new String;`
e. None of the above

Question 10 - If any int array, `a`, is passed as a parameter to a method, which of the following would adequately define the parameter list for the method header?

a. `(int[])`
b. `(int a)`
c. `(a[])`
d. `(int[] a)`
e. None of the above

Question 11 Define a class named `IntegerList` that contains:
- An instance data named `list`, an array of integers.
- A constructor that accepts an array size and creates a list of that size.
- A getter and setter method for every instance data.
- A `randomize()` method that fills the list with random integers between 1 and 100, inclusive.
- A `toString` method that returns a string containing the list elements, separated by spaces.
- A method `merge()` that merges two integer lists into one integer list and returns it, where elements of the first list are followed by those of the second list.

Question 12 Given the class `Player` below:

```java
import java.util.Scanner;
public class Player {
    private String name;
    private int goals;
    private int games;

    public Player(){
        Scanner scan = new Scanner(System.in);
        name = scan.nextLine();

        goals = scan.nextInt();
        games = scan.nextInt();
    }

    public double getAverage(){
      return (games == 0 ? 0: goals/games);
    }
}
```

Write a method `topPlayers()` that takes two parameters:

1. `team`, an array of Player objects
2. `target`, a double

The method returns the total number of players in `team` that have an average number of goals per game higher than `target`.