Final Exam

Started: Dec 6 at 5:02pm

Quiz Instructions

Notes are allowed. You can't take the exam from home.

Question 1 — 7 pts

What's the output of the following program:

```
import java.util.ArrayList;
public class E{
    public static void main(String[] args){
        ArrayList<String>names;
        names.add("Alice");
        names.add("Bob");
        names.add("Ann");
        names.add("John");
        System.out.print(names.get(3));
    }
}
```

- ◯ Alice
- ◯ Bob
- ◯ Ann
- ◯ John

Question 2

8 pts

Predict the output of the following program:

```
public class A{
    public static double avgSquare (int[] arr){
        int sum = 0;
        for(int i = 0; i < arr.length; i++)
            sum = sum + arr[i]*arr[i];
        return sum/arr.length;
    }
     public static void main(String[]args) {
         int[] scores = new int[]{1,2,3,-1};
         System.out.print(avgSquare(scores));
     }
}
```

Question 3

8 pts

Predict the output of the following program:

```
class Student{
    private int id;
    private double gpa;
```

```
    public Student(int id){
        this.id = id;
        gpa = 4;
    }
    public Student(int id, double gpa){
        this.id = id;
        this.gpa = gpa;
    }
    public String getGpa(){
        if(gpa == 4)
            return "A";
        else if(gpa >=3)
            return "B";
        else
            return "C";
    }
}
public class B{
    public static void main(String[]args) {
         Student alex = new Student (123);
        Student john = new Student (124, 3.4);
         System.out.print(alex.getGpa()+", "+john.getGpa());
     }
}
```

Question 4

10 pts

Predict the output of the following program:

```
public class Date{
	private int day;
	private int month;
	private int year;
	public Date(){
		day = 29;
		month = 7;
		year = 2020;
	}
	public Date(int day, int month, int year){
		this.day = day;
		this.month = month;
		this.year = year;
	}
	public Date(int day, String month, int year){
		this.day = day;
		this.year = year;
		switch(month.charAt(0)){
		case 'J':
			if(month == "Jan")
				this.month = 1;
			else if(month == "Jun")
				this.month = 6;
```

```
                else
                        this.month = 7;
                break;
        case 'F':
                this.month = 2; break;
        case 'M':
                if(month == "Mar")
                        this.month = 3;
                else
                        this.month = 5;
               break;
        case 'A':
                if(month == "Apr")
                        this.month = 4;
                else
                        this.month = 8;
                break;
        case 'O':
                this.month = 10;break;
        case 'N':
                this.month = 11;break;
        case 'D':
                this.month = 12;break;
        }
}
public int difference( Date another){
        if(year != another.year)
```

```
                return year - another.year;
            if(month != another.month)
                return month - another.month;
            return day - another.day;
        }
}
public class D{
    public static void main(String[]args) {
            Date day1 = new Date();
            Date day2 = new Date(7,7,2020);
            Date day3 = new Date(1, "Aug", 2020);
            System.out.print(day1.difference(day2) + ",");
            System.out.print(day2.difference(day3) + ",");
            System.out.print(day3.difference(day1) + ",");
            System.out.print(day2.difference(day1));
     }
}
```

Question 5

7 pts

Predict the output of the following program:

```
public class C{
    public static void main(String[]args) {
            for(int i = 0; i < 5; i++){
```

```
                    for(int j = 0; j < 5;j++){
                        if (j < i)
                            System.out.print("*");
                        else if (j > i)
                            System.out.print("+");
                        else
                            System.out.print(".");
                    }
                    System.out.println();
                }
            }
}
```

Edit View Insert Format Tools Table

12pt Paragraph

p 0 words

Question 6

10 pts

Write a method with the following signature that gets an array of integers as its only input parameter and returns the number of even integers stored in the array.

```
public static int countEvenIntegers (int[] array){
        //your code comes here...
}
```

Edit View Insert Format Tools Table

12pt Paragraph B I U A T²

p 0 words </>

Question 7

50 pts

Consider the following Java class:

```
public class Shirt{
```

```
        private String brand;

        private double price;

        private int size;

        //your code comes here...

}
```

a. (10 points) For this class Shirt, write a constructor which takes a String representing the brand, a double representing the price, and an int representing the size as its arguments, and sets the class variables to these values.

b. (10 points) Write a second constructor for the class Shirt, which takes a String representing the brand, a double representing the price as its arguments, and sets the respective class variables to these values, while the class variable size is set to 9.

c. (9 points) Write a getter (accessor) for each of the three variables of class Shirt.

d. (9 points) Write a setter (mutator) for each of the three variables of class Shirt.

e. (6 points) Write a method with the following signature for the class Shirt so that it returns the price variable after converting the currency from US Dollar to Euros. To convert a price from US Dollar to Euros, you need to multiply it by 0.85.

*public double getPriceInEuros(){ /*your code comes here...*/}*

f. (6 points) Write a method with the following signature for the class Shirt so that it gets an object of Shirt class as its only input parameter. The method prints out the string "same size" if *this.size* is equal to the size of the input parameter, prints out the string "larger" if *this.size* is greater than the size of the input parameter, and prints out the string "smaller" if *this.size* is less to the size of input parameter.

*public void compareSize (Shirt another){/*your code comes here...*/}*

Edit View Insert Format Tools Table

12pt Paragraph B I U A T²

p 0 words </>

Quiz saved at 5:02pm Submit Quiz