CSC 1051 - Lab 10

1. Download the example from Chapter 6 gradeReport.java and try it out.

2. Have you heard about grade inflation? Well, we now want to change the switch statement so that in BOTH the cases where the student has a grade in the 80s OR 90s, the same message appears (lower the threshold of all the other grades as well). Add an extra message to differentiate the grades in the 90s, like this:

   ```java
   case 10:
     System.out.println("a perfect score. Well done.");
     break;
   case 9:
     System.out.println("great!");
   case 8:
     System.out.println("well above average. Excellent.");
     break;
   case 7:
     System.out.println("above average. Nice job.");
     break;
   ...
   Test the program with lots of different inputs to understand how the cases work and the function of the break statement. Be sure you are able to predict what gets printed with an 85 or a 70 or a 91, say.
   ```

3. Complete the implementation of the Dog class below, using a switch statement to implement the toString() method. Include accessor and mutator methods for action. Create a driver class to test the Dog class. In the driver class create several dogs and set their actions to one of each choices available. Then check that it prints out correctly.

   ```java
   public class Dog {
     // instance variables
     private String name;
     private int age;
     private int action; // 1=sit; 2=sleep; 3=shake; 4=run

     // constructor
     public Dog(String first_last, int number) {
       name = first_last;
       age = number;
       action = 1; // starts out sitting
     }
   }
   ```
Have your work checked by the instructor or TA.

You do not need to hand in this worksheet. Use the remainder of time in this lab to start working on Project 9.
The switch statement can be used in many ways to choose from a fixed number of options and you should keep that in mind as you work through your project. For example if you have an “Alien” class and have a numeric code for the type of alien (an integer alienType), you can use it to set the alien’s color as follows:

```java
switch (alienType) {
    case 1:
        page.setColor(Color.red);
        break;
    case 2:
        page.setColor(Color.blue);
        break;
    case 3:
        page.setColor(Color.green);
        break;
    default:
        page.setColor(Color.black);
}
```

The next pages are worksheets to describe the classes that you plan to create for Project 9 (you only need to create two classes but there is an extra one, just in case).
Project 9 - Proposed Class

Name of class:

What will objects look like?

List constructor parameters, their type, and meaning:

_______________________    ______________    ________________________________
_______________________    ______________    ________________________________
_______________________    ______________    ________________________________
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_______________________    ______________    ________________________________
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(if you have more parameters, use back of page to continue).

Give 3 examples of ways to create objects in your class.

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________________________________________________________________________________________

Comments:
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Comments:
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Comments: