CMSC 132 Quiz 1 Worksheet

The first quiz for the course will be on Wed, Feb 3. The following list provides more information about the quiz:

- The quiz will be a written quiz (no computer).
- The quiz will be in your lab (discussion) session.
- Closed book, closed notes quiz.
- Answers must be neat and legible. We recommend that you use pencil and eraser.

The following exercises cover the material to be included in this quiz. Solutions to these exercises will not be provided, but you are welcome to discuss your solutions with the TA or instructor during office hours.

**Exercises**

1. What is encapsulation? How does it relate to abstraction?
2. What is the difference between procedural abstraction and data abstraction?
3. Define an enumerate type named `Day` that represents the days of the week. Using the enhanced for loop construct, write a code fragment that prints all the days of the week.
4. The `PrinterJob` class is defined as follows:

   ```java
   public class PrinterJob {
       private int id;
       private int size;

       public PrinterJob(int id, int size) {
           this.id = id;
           this.size = size;
       }

       public int getId() { return id; }
       public int getSize() { return size; }
       public String toString() {
           return "Id: " + id + " Size: " + size;
       }
       public int hashCode() {
           return id;
       }
   }
   
   a. Add a new private field "jobType" as an enumerated type with the values COLOR and BW.
   b. Modify the class so it implements the Comparable interface, allowing you to compare PrinterJob objects based only on their id.
   c. Implement a comparator class named SizeComparator that allow us to compare PrinterJob objects based on their size.