

## CS 2510 Exam 7 – Summer 2012

Name: \_\_\_\_\_

Student Id (last 4 digits): \_\_\_\_\_

- Write down the answers in the space provided.
- You may use all syntax of Java that we have studied in class.
- For tests you only need to provide the expression that computes the actual value, connecting it with an arrow to the expected value. For example `s.method()` -> `true` is sufficient.
- Remember that the phrase “design a class” or “design a method” means more than just providing a definition. It means to design them according to the **design recipe**. You are *not* required to provide a method template unless the problem specifically asks for one. However, be prepared to struggle if you choose to skip the template step.

Score		45
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*Good luck!*

**Problem 1**

A matryoshka doll, or a Russian nesting doll, refers to a set of wooden dolls of decreasing size placed one inside the other. The innermost doll is usually a baby, and thus we can describe matryoshka dolls as either a baby, or a layer with a matryoshka doll inside.

- A. Design a data definition for matryoshka dolls.
- B. Draw the class diagram corresponding to your data definition.
- C. Develop the visitor pattern for matryoshka dolls.
- D. Design a visitor for matryoshka dolls that computes the nesting depth of the doll. The nesting depth of the baby is 0.
- E. Have a great summer.



