# Comp 413: Quiz 1   Name: <u>Answer Sheet</u>   Grade:   / 10

## Dr. Yacobellis • Fall 2015 • Tuesday 9/15 • 10 minutes • one page of notes

This quiz covers the first two SE Radio podcasts, Patterns and Dependencies.
1 point per question, 2% of total grade.

## Episode 1, Patterns

1. True or false: The first IT patterns were documented in the Gang of Four (GOF) book.
   Answer: **False, by Kent Beck & Ward Cunningham in 1987**

2. What are the 3 most important categories of pattern information? Circle the appropriate answers:

   Interactions **<u>Problem</u>** Forces **<u>Context</u>** Tradeoffs **<u>Solution</u>**
   **A pattern is a <u>solution</u> of a <u>problem</u> in a given <u>context</u>.**

3. True or false: Patterns are "mined" from existing experience, often by practitioners.
   Answer: **True**

4. A "writer's workshop" relates to which of the following? Circle the one appropriate answer:

   Writing a novel **<u>Improving a pattern description</u>** Inspecting software

5. Some advantages of patterns are (circle all of the appropriate answers):

   Automation **<u>Reuse</u>** **<u>Communication</u>** OO Implementation **<u>Structured Thinking</u>**

## Episode 2, Dependencies

1. True or false: According to the podcast, OO is primarily about inheritance.
   Answer: **False, it's mainly about calling methods on other objects, or in other words, delegation.**

2. True or false: The main goal for using delegation is supporting program testability.
   Answer: **True; allows substituting "mock" objects for real ones, separating pieces to be tested, ...**

3. Which of these Gang of Four design patterns is mostly used (directly or indirectly) in delegation? Circle the one appropriate answer:

   Observer Builder **<u>Factory</u>** Singleton Visitor

4. True or false: "Dependency injection" is about an (external) entity that discovers and provides objects with other objects they depend on, sometimes via explicit dependency declarations.
   Answer: **True for the most part; can also build DI into a program with interfaces, etc.**

5. True or false: Dependency injection is always dynamic (performed at runtime).
   Answer: **False; for example, it can also be done via <u>annotations</u> at compile time.**