Session 1-a: Introduction and Course Overview

- Scope and performance objectives
- Prerequisites and required background
- Course materials and procedures

COMP 370 Spring, 2019 Mr. Weisert

COMP 370 is about software quality and testing

- Some recent writers consider those two terms to be synonymous.
  - In their view a program that works (has no "bugs" or malfunctions) is of satisfactory quality!
  - You'll encounter books, articles, presentations, and other courses that share that assumption.
- That's naive nonsense!
  - Correctness (yielding the right result) is only one aspect of software quality.
  - What are some others?

What we mean by quality

- COMP 370 examines quality in a broad sense
- We shall, of course, examine testing/validation strategies.
- But we shall also pay close attention to issues of software:
  - maintainability
  - understandability
  - flexibility
  - etc.

Do we understand exactly what's meant by those terms?

Upon satisfactorily completing COMP 370 you'll be able to design and develop computer software that:

- is operationally reliable
  - Compared with what?
- satisfies well-defined users' requirements
  - What if they're unstated (COMP 320)?
- is easy to understand and modify
  - Why, when, and by whom?
We assume at the start that you
- are fluent in one of the C-family of object-oriented programming languages
  - Which one? How fluent?
- know how to code, compile, and execute programs on Loyola's lab computers or your own comparable environment.
  - What if we don't?
- have successfully developed non-trivial software in that environment.

The C-family of programming languages
- C++, Java, and C# are very similar in:
  - syntax
  - primitive (built-in) data types
  - flow-control structures
  - object-orientation
- So we should be able to understand examples coded in any of them.

Preferred language for this course
- Our course’s preferred language is C#.
  - Our Computer Science department has been using it for introductory courses for two years.
  - The Xamarin platform
  - Help is available for anyone who asks for it.
- The principles and techniques we shall use are easily applicable to C++ or (with some exceptions) Java.

Reading assignments
- The course schedule specifies for each class session reading material, including:
  - chapters of our Weinberg textbook
  - short articles from the web
  - (rarely) other accessible material
- Please read the assigned material before the class session. Then:
  - You can ask questions in class about anything that wasn't clear.
  - I may ask questions to confirm that you understood the material.
Presentation slides

- You can get a copy of the presentation slides, such as these, to print or to store on your own computer.
  - Accessible through our schedule page
  - 4-per-page (to save paper if you print)
  - Available a few days before each class session.
    (check for "Spring, 2019")

- Then during class:
  - You'll rarely have to take notes on what you see on the screen.
  - You can concentrate on understanding the content.

Assignments

- As stated in the syllabus and shown on the detailed course schedule, we shall do 7 independent assignments.
- You'll always get at least two weeks to do each one:
  - Then if you have trouble you'll get a chance to ask for help before the assignment is due.
    (Of course that won't help if you start working on it the night before it's due.)
- If you have special interests, talk to me about substituting something else for one or more assignments.

Grading

- The criteria are clearly set forth on the course web site.

- Since the subject matter of COMP 370 emphasizes quality, grading may reflect the quality of your work even more than in some other courses.
  - NOTE: Just getting a right answer to a programming exercise doesn't assure an A.