SE Testing Basics

SWEN-101
What is a “Good” Test?

• A good test has a high probability of finding an error
• A good test is not redundant.
• A good test should be “best of breed”
• A good test should be neither too simple nor too complex
Effective and Efficient Testing

• To test *effectively*, you must use a strategy that uncovers as many defects as possible.
• To test *efficiently*, you must find the largest possible number of defects using the fewest possible tests
White-box testing

- Also called ‘glass-box’ or ‘structural’ testing
- Testers have access to the system design
  - Examine the design documents
  - View the code
  - Observe at run time the steps taken by algorithms and their internal data
- Individual programmers often informally employ glass-box testing to verify their own code
Black-box testing

- Testers **provide** the system with inputs and **observe** the outputs
  - They cannot see internal code
  - Cannot view internal data
  - No access to documentation of system internals
Acceptance tests

- Black box tests that cover all the requirements.
- Testers have access to the system design
  - Testing all the “user facing” features
  - Some features may only need one test case
  - Other tests may include different scenarios of same feature
- At the end of acceptance testing, need to get reasonable confidence that the system behaves as expected