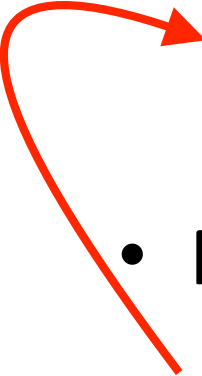# Conducting tests

- Start with **unit testing**   algorithm bugs
  - Check that each module (e.g. function) works correctly

- Move to **integration testing**   interaction bugs
  - Check that system as whole works correctly

- Cycle between these phases

Test Drivers and Stubs

- **Drivers** are code that
  - <u>Set up environment</u> needed to run code
  - Invoke code on <u>predefined sequence of inputs</u>
  - Save results, and
  - Report
- Drivers simulate parts of program that use unit being tested
- **Stubs** simulate parts of program used by unit being tested
  - Allow you to test units that depend on software not yet written

Table if I/O pairs

Good testing practice

- Start with <u>unit testing</u>

- Move to <u>integration testing</u>

- After code is corrected, be sure to do **regression testing**:
  - Check that program still passes all the tests it used to pass, i.e., that your code fix hasn't broken something that used to work