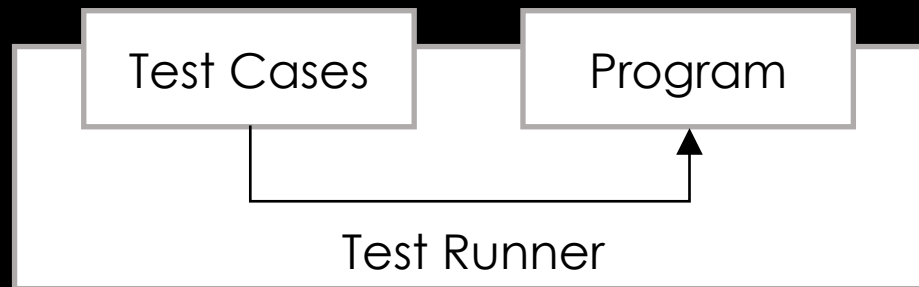# JUnit

- JUnit is a simple tool to aid unit testing
- Provides a framework which developers use to write and run their own test cases:

- When using JUnit, you write test cases in Java !
- So we can write loops to test many values

Assertions

- JUnit uses "Assertions" to test the code
- Allow us to state what *should* be the case
- If assertions do not hold, JUnit's logging mechanisms reports failures

- Various types of assertion are available
- The most commonly used are:
  - assertEquals(expected, actual)
  - assertTrue(condition)
  - assertFalse(condition)
  - assertThat (value, matchingFunction)

Examples

Given three integer variables:

int x = 1;   int y = 10;   int z = 100;

What are the outcomes of:

PASS   assertEquals(1, x);
FAIL   assertEquals(x, z);
PASS   assertTrue(Math.sqrt(y) > x);
PASS   assertFalse(x > y);
FAIL   assertFalse(z != y);