Test Plans

Compilation was successful

This does not mean the code is debugged!

Test Driven Development I

code test

write tests for new code
write new code

write new code

Test new code

test new code

test vault

Test Driven Development II

write integration test
integrate new code
test integration

test new code

test vault

regression testing: subject changes to tests in vault to be sure you didn’t break anything

Unit Test for Vertex Collision

w

p0

Test Cases

• You know answer ahead of time
• Tests include problem cases
Example: Step 1

choose \( w \) and \( p_0 \) randomly

Are there special cases we should consider or ignore?

Example Step 1

choose \( w \) and \( p_0 \) randomly such that
1. distance < \( r \)
2. distance = \( r \)
3. distance > \( r \)

more on this later

Example Step 2

randomly set the ball's velocity

are there special cases to consider or ignore?

Example Step 2

randomly set the ball's velocity so that it just hits and just misses

Questions

- Are these good test?
- Are there other kinds of tests we should do?
- How can we automate testing?
  - Test generation
  - Running the tests
- How will we do regression testing?

Numerical inaccuracies

the ball's position at time of collision may have real but not rational coordinates. what impact does this have?

randomly set the ball's velocity so that it just hits and just misses
When the impossible happens

what should you do?

KNOW WHAT TO EXPECT!!

Come up with a test plan for Prototype II. How will you evolve the plan over the course of the project? Implement the plan.