

Activity: Why Test? Why Verify?

A. Why?

Education research shows that students learn better when they are active participants in class, compared to passive listeners of lectures. This **active** kind of learning includes obvious things like answering questions in class, but it can also include team activities and quick feedback to the instructor. This activity is designed to help you practice some of the techniques we'll be using this semester.

B. Outcomes

The expected outcomes from this activity are:

- Practice forming small groups, discussing questions, and deciding on answers.
- Practice the use of email for quickly giving the instructor feedback during class.
- Know pros and cons of testing.
- Know pros and cons of formal systems.
- Be more interested in the course?

C. Team Roles

Get together in groups of five; at least one person should have a wi-fi-enabled laptop. Assign these roles among yourselves.

1. The captain: Makes sure that people follow their roles and that everyone has fun.
2. The speaker (has a laptop): Communicates with the instructor and the rest of the class.
3. The recorder: Takes notes of the discussion.
4. The reflector: Assesses team performance and keeps the captain on task. (“Assess” in the sense of “suggesting ways to improve performance” [even if performance is great!], not “assess” in the sense of “judging” or “grading”.)

Once the roles have been chosen, discuss the following questions (and of course, all members should contribute to the discussion).

D. Questions

For developing correct programs, testing is important, but insufficient.

1. Give at least two reasons for why testing is useful and important. Spend a few minutes and type up a list. Email it to f09cs536@gmail.com with the subject “1.1 testing pros”.
2. Give at least two reasons for why testing is insufficient. Type up the list and email it to f09cs536@gmail.com with the subject “1.1 testing cons”.
3. How might formal systems help us develop correct programs? Discuss one or more reasons, type up the list and email it to f09cs536@gmail.com with the subject “1.1 formal systems”.