

University of Illinois at Urbana-Champaign
Dept. of Electrical and Computer Engineering

ECE 220: Computer Systems & Programming

Designing Loops

An Approach for Designing Control of Iterations

Want to provide you with

- a **step-by-step process**
- for **designing control for iterations.**

After discussing the steps,

- we'll walk through an example
- adapted from the LC-3 simulator.

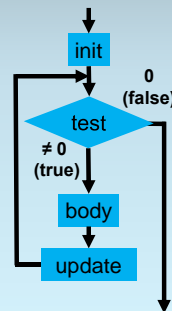
Finally, we'll do a think-pair-share.

Before Starting, Be Sure that You Know Why

0. What is the task that you're repeating?

Be sure that the answer is clear to you before you start.

Otherwise, why are you iterating?



What Can You Assume When You Start an Iteration?

0. What is the task that you're repeating?
1. What is true at the start of "test" in each iteration?

You can make up variables and assumptions (called **invariants**).

But you have to make them hold true in later steps.

