



CS 341

Software Design

Minilab 3

Deadlock

December 4, 2007

Today we will continue working with the water tank problem. You will need to download a new version of the program to start with. This version is very similar to the version you ended with last week except two tanks are displayed. Emptying one tank will fill the other.

Step 0: Observe deadlock

Run the program. You should see two water tanks next to each other. When the program is run with 2 water tanks, emptying one fills the other.

The program now allows more than 1 emptier thread. (You will still only be able to stop the last one created. Don't worry about that.) Start an emptier thread in each tank. They should run for a short while and then both stop. What is happening is that to empty from a tank now involves removing water from one tank and adding it to the other tank and this causes deadlock. Each thread needs locks on both tanks but acquires these locks out of order.

