1. You already wrote a (hopefully!) perfectly fine FIFO in the previous lab. We just wrote a completely different FIFO, which was kind of a lot of work. Why bother? Why should we not have just reused your FIFO code from last week as the reference model?

If we use the same model in testing, the test will become meaningless since the output will surely be the same and if there are any errors in the original model, we obviously couldn’t find it. Only if they are different, there can be different outputs. Then we can find the difference between models and find which one might have errors.

1. For each of the don’t-do-it-this-way scenarios in driving *n\_items*, can you explain why that way wouldn’t work? What is the nature of the race involved?

There will be racing conditions between these 2 if-statement. If wr\_en and rd\_en are both 1, then ++I and - -I is concurrent. You don’t know the which step between x=i+1, i<=x, x=i-1 will be finished first and might cause serious problems.