18-642 Recitation #5

September 27, 2019
Updates

• HWs for this week 5 are a bit different
  – All on the same topic (a warm-up for project design)
  – Last year students said they took longer than previous HWs
    Start early!

• Homework:
  – Last week homeworks graded on canvas
  – Next week homeworks due Wednesday night

• Homework grading
  – Points are mostly for effort
  – Read comments on canvas, even if you got full points
  – Full points does not mean you got the right answer
    • We’ll try to cover some common issues in recitation
    • If you’re not sure – ask!
Updates

• Projects:
  – Project 4 graded on canvas
  – Project 5 due tonight
    • Remember that code must comply with every Project 3 Checklist item
    • Issues from peer reviews should all be fixed
  – Project 6 released, due in a week
    • Project #7 skips a week due to exam
Updates

• Exam #1 coming soon
  In class on Thursday Oct 10, 2019
  – Note that HW #18 is exam prep.
  – You should do HW #18 while you are studying for the exam.
  – It is OK to start HW #18 early!
Project #5 Questions?
Project 6

• New mazes
  – You must solve m1, m2, m3
  – m4,m5,m6 are recommended but not required
  – come up with a new algorithm

• Write requirements
New Mazes

• You must solve m1, m2, m3
New Mazes

• Take a look at m4, m5, m6

Mazes you will be expected to solve in the future
Tips

• Keep your algorithm simple
• Leverage the visit count array from Project 5
• Bumped(x1,y1,x2,y2) checks whether the edge with endpoints (x1,y1) and (x2,y2) exists

bumped(2,1,2,2) = true
Requirements

• Write requirements for the new algorithm you think of
  – Software system requirements
  – Don’t reference internal variables

• Example requirements for left-hand rule:
  – R-1: If the turtle is obstructed by a wall, the turtle shall turn right.
  – R-2: If the turtle is not obstructed by a wall, the turtle shall move one square in the direction it is facing.
  – R-3: If the turtle has just completed a move forward, it shall turn left regardless of obstruction.
  – R-4: If the turtle has reached the end square of the maze, it shall not move.
Project 6 Questions?

• Review
  – New mazes
  – Write requirements
  – You’ll be writing documentation, unit tests, etc for this implementation in future projects
Lightning Round

• 10-3a. Let's say you have a function that takes 25 input parameters. When is it OK to pass those parameters via globals? Why?

• 10-3b. You have a global array of 100 elements. Should that be counted as 1 global, 100 globals, or something else? Why?

• 10-3c. You have a struct with 100 different named elements. Should that be counted as 1 global, 100 globals, or something else? Why?

• 9-2a. What is an argument for including switch statements in a cyclomatic complexity metric?

• 9-2b. What is an argument for NOT including switch statements in a cyclomatic complexity metric?