HW5 Grading Rubric

Written(48)

W1(8) Weiss 7.19:
- 0 if no work shown or quick sort is not used
- -3 if median of three is not used

OK to switch pivot with last element, to leave it in, or to switch with second to last element
- -1 if pivot is not removed before next iteration
- -1 if pivot is not switched back after pushing to back
- -1 for not explaining/giving reasonable base case for what happens with 3 or fewer elements
- -1 for each incorrect swap

W2(8) Weiss 7.23:
- -3 explanation given but unclear / insufficient
- -5 if no explanation/justification given OR if an explanation is given but question isn't answered

W3(8) Weiss 7.28a:
- ½ pts for high-level description instead of pseudocode (unless the description is step-by-step and fairly detailed)
- Partial credit at grader's discretion
- 3 points for using 4 correct pointers i, j, leftEqual, rightEqual or similar (**pointers**)
- 3 points for swapping equals to either side and incrementing pointers (**swap**)
- 2 points for integrating into the rest of the method correctly (correct order, swapping i and j normally after, etc.) (**normal method**)
- -If you lost points you may have been given a comment as one of these codes in bold for consistency. Please consult these when reviewing your mistakes.
- 0 points if student rewrites typical quicksort method with no change as asked by the question

W4(8) Weiss 9.1:
Note: There are multiple correct answers
- -1 per incorrectly placed node

W5(8) Weiss 9.7a:
- +8 for correct example;
- 0 otherwise (e.g. if running Dijkstra's would not yield the wrong answer)

W6(8) Weiss 9.38:
Detailed explanation or pseudocode are fine for both (a) and (b).
Part A (4):

- - 1 if sticks compared, but no conclusion about which is higher (question explicitly asks for that).
- - 1 if no or incorrect answer on whether or not sticks are unrelated.
- -1.5 if incorrectly determine which stick above which

Part B (4):
- -1.5 if no mention of or wrong direction of edges in graph
- -1.5 if no answer whether or not it is possible to pick up all sticks
- -1 No mention of topological sort
- -2 No mention of any sort of graph algorithm

Programming (52)

- Compiling Issues:
- -2 Simple Fix to Compile (Removing package statements, missing semicolons)
- -4 Slightly more complicated issue (Multi line compilation errors)
- Major Issue: Max ⅔ of total grade based on attempt (compilation and/or logic errors

P1 Dijkstra's Algorithm (52):

Implementation (28):
- +4 correctly implemented computeEuclidianDistance()
- +4 correctly implemented computeAllEuclideanDistances()
- +15 (minimum possible 0) correctly implemented doDijkstra()
  - -5 for any of the following mistakes
    - does not find minimum element correctly
    - does not update distance correctly
    - does not set backpointers correctly
    - does not store vertices
  - -3 for any of the following mistakes
    - minor bug (i.e. || instead of &&)
- +5 correctly implemented getDijkstraPath()

Test Cases(24):
+8 for each correctly computed path:
- Vancouver -> Raleigh
  - Dist: 748
  - Path: Vancouver->Calgary->Winnipeg->Duluth->Chicago->Pittsburgh-> ->Washington->Raleigh
- SaultSaintMarie->Montreal
  - Dist: 155
  - Path: SaultSaintMarie->Montreal
- One more test case (SanFrancisco -> NewYork)
  - Dist: 681

- Path: SF-> Salt Lake City -> Denver -> Omaha -> Chicago -> Pittsburg -> NYC