Homework 4 Grading Rubric

MCS 401 Summer 2015

There were 105 points possible - 30 based on completeness, 70 based on correctness, and 5 based on me being able to navigate what you turned in - but making over 100 points was not allowed.

1 Check Marks (30 points possible)

Check marks mean that you attempted a part of a problem, not that you did it correctly. Sorry for any confusion this causes.

I considered attempting each separate part of a given problem as one point. The number of parts each problem had should be clear from context except for maybe problem 11 where one check went to answering the question and the other went to solving the recurrence.

2 Graded Problems (70 points possible)

I graded 5 of the problems based on correctness - 3 were worth 10 points each and the other two were worth 20 points each.

Problem 1 (10 points)

- (0 points) missing or completely incorrect

- (3 points) did some of the work computing the integrals, but did not find bounds

- (5 points) found only one of the two bounds

- (8 points) found both bounds but did not give correct reason for $H_n = ln(n) + O(1)$

- (10 points) found both bounds and used BOTH upper and lower bounds to conclude $H_n = ln(n) + O(1)$

Problem 4 (20 points)

- (0 points) missing or completely incorrect

- (5 points) some correct work done towards finding the solution to part a

- (10 points) found the correct solution to the recurrence, but did not work enough towards finding asymptotic bounds

- (15 points) correct solution to recurrence but either only showed one bound, put in almost all of the work to show both but didn't actually finish showing either bound, or showed both bounds correctly but they were not tight

- (20 points) showed everything correctly and bounds were tight

Problem 8 (20 points)

- (0 points) missing or completely incorrect

- (5 points) missed part a or did not explain it well enough, but answered either part b or part c correctly

- (10 points) answered part a correctly, but did not explain parts b and c well

- (15 points) answered part a and either part b or part c correctly but not both

- (20 points) answered all three parts just fine

Problem 11 (10 points)

- (0 points) missing or completely incorrect

- (5 points) correct answer and reasoning, but didn't solve the recurrence

- (10 points) correct answer and reasoning, and solved the recurrence correctly

Problem 14(a) (10 points)

- (0 points) missing or completely incorrect

- (5 points) guessed the correct asymptotic bound and attempted solution, but made substantial mistakes

- (10 points) correct guess with correct solution showing the bound works

3 Presentation Bonus (+5 points possible)

I gave an extra 5 points to some people as a thank you for turning in something that was easy to grade. These assignments had somewhat ok handwriting or were typed, the problem numbers were not hidden underneath the staple, and, most importantly, the problems were in sequence. So thanks to those of you who did that!