CSc 144–002 — Discrete Mathematics for Computer Science I — Fall 2023 (McCann)
https://cs.arizona.edu/classes/cs144/fall23-002/

Practice Homework #4

$\Longrightarrow$ ($\boxed{0}$ points) $\Longleftarrow$

"Due" Date: December 5/6, 2023, in SI Meetings

Directions

Because we are nearly at the end of the semester, there's not enough time to have a real homework graded and returned before the final exam. However, we're confident that you will benefit from working some problems on recently–introduced material that will be covered by the exam, even if we do not collect your answers. Thus, we offer this *uncollected, ungraded* homework. We recommend that you treat it as you would a regular homework: Write complete answers to all of the questions, do your own work, and show that work, when appropriate. The TAs will entertain questions on these problems during SI sessions (and in office hours, of course).

Incentive: As encouragement to work through these problems, I'll select one of them from the Chapter 7 questions to be on the final. Should be easy points . . . if you do this 'homework!'

Section 6.1: The Basics of Counting:

1. Section 6.1, 17
2. Section 6.1, 27
3. Section 6.1, 33

Section 6.2: The Pigeonhole Principle:

4. Section 6.2, 11
5. Section 6.2, 21(a,b)
6. Section 6.2, 33

Section 6.3: Permutations and Combinations:

7. Section 6.3, 9
8. Section 6.3, 11(a,d)
9. Section 6.3, 19(a,b)
10. Section 6.3, 21(a,c)
11. Section 6.3, 29(a,b)
12. Section 6.3, 35

Section 6.4: Binomial Coefficients and Identities:

13. Section 6.4, 9
14. Section 6.4, 23

Section 6.5: Gen. Permutations & Combinations:

15. Section 6.5, 5
16. Section 6.5, 11
17. Section 6.5, 45

The Incentive question will come from this column!

Section 7.1: Intro to Discrete Probability:

18. Section 7.1, 7
19. Section 7.1, 9
20. Section 7.1, 13
21. Section 7.1, 35(all)

Section 7.2: Probability Theory:

22. Section 7.2, 3
23. Section 7.2, 19(all). See Ex. 13, p. 486-7.
24. Section 7.2, 23
25. Section 7.2, 29
26. Section 7.2, 35

Section 7.4: Expected Value and Variance:

27. Section 7.4, 3
28. Section 7.4, 7
29. Section 7.4, 27. Find both σ^2 and σ.
30. Page 522, 7
31. Page 522, 11