

CSCE 222 Discrete Structures for Computing – Fall 2023

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Problem Set 4

Due dates: Electronic submission of *yourLastName-yourFirstName-hw4.tex* and *yourLastName-yourFirstName-hw4.pdf* files of this homework is due on **Friday, 10/13/2023 before 11:59 p.m.** on <https://canvas.tamu.edu>. You will see two separate links to turn in the .tex file and the .pdf file separately. Please do not archive or compress the files. **If any of the two files are missing, you will receive zero points for this homework.**

Name: Kevin Lei**UIN:** 432009232

Resources. (All people, books, articles, web pages, etc. that have been consulted when producing your answers to this homework)

On my honor, as an Aggie, I have neither given nor received any unauthorized aid on any portion of the academic work included in this assignment. Furthermore, I have disclosed all resources (people, books, web sites, etc.) that have been used to answer this homework.

Electronic signature: Kevin Lei

Total $100 + 5$ (bonus) points.

The intended formatting is that this first page is a cover page and each problem solved on a new page. You only need to fill in your solution between the `\begin{solution}` and `\end{solution}` environment. Please do not change this overall formatting.

Make sure that you strictly follow the structure of induction proof as shown in the lecture notes and how I solved in my videos.

Checklist:

- ☐ Did you type in your name and UIN?
- ☐ Did you disclose all resources that you have used?
(This includes all people, books, websites, etc. that you have consulted)
- ☐ Did you sign that you followed the Aggie Honor Code?
- ☐ Did you solve all problems?
- ☐ Did you submit both the .tex and .pdf files of your homework to each correct link on Canvas?

Problem 1. (15 points) Section 4.1, Exercise 4.3

Solution.

Problem 2. (15 points) Section 4.1, Exercise 4.4

Solution.

Problem 3. (15 points) Section 4.1, Exercise 4.5

Solution.

Problem 4. (20 points) Section 4.1, Exercise 4.6

Solution.

Problem 5. (20 points) Section 4.3, Exercise 4.15

Solution.

Problem 6. (20 points) Section 4.6, Exercise 4.31

Solution.