Homework #1 (due in-class, September 27, 2023)

Collaboration policy: You can discuss the problems with other students, but must write the final answers yourself. Please specify all of your collaborators (names and student id's) and resources (websites) for each problem. If you solve some problems by yourself, please also specify "no collaborators." Homework without collaborator and resource specification will NOT be graded.

I. Required Part: TA Jeng-Yu Liao (b07901059@ntu.edu.tw) is responsible for this part. The page numbers are based on the 4th edition textbook.

1. Exercise 2.1-2 (page 24). (10 pts)

2. Exercise 2.3-6 (page 44). (10 pts)

3. Problem 2-2 (page 46). (10 pts)

4. Exercise 3.2-1 (page 62) (10 pts)

5. Problem 3-2 (page 71). (10 pts)

6. Exercise 4.1-3 (page 85). (10 pts)

7. Exercise 4.2-4 (page 89). (10 pts)

8. Exercise 4.3-3 (page 95). (10 pts)

9. Exercise 4.4-1 part d (page 101). (10 pts)

10. Problem 4-3 parts a, b, c, and d (page 120) (10 points)

II. Bonus Part A: Bonus Parts II and III (below) will be directly graded by Professor Yao-Wen Chang or the TAs of Chang's class. So please submit your solutions with separate sheets from the above homework submissions for easier grading. For the DIY problem, please make sure that you submit at least one DIY problem with any of the four homework assignments weighing 2 pts for your *regular* final score. Only the highest score will be counted if you submit multiple DIY problems.

- (DIY Problem) For this problem, you are asked to design a problem *set* related to Chapter(s) 1, 2, 3, and/or 4 and give a sample solution to your problem set. Grading on this problem will be based on the *quality* of the designed problem and the *correctness* of your sample solution.

III. Bonus Part B (60 pts in total): You may submit solutions to the following four problems as part of the 2-pt bonus to your final score. Note that the mean of our class's bonuses must be aligned with the other two classes.

11. Problem 2-4 (page 47). (20 pts)

12. Problem 3-3(a): The 12 functions in the first two rows (page 71). (20 pts)

13. Problem 4-1(a), (c), (d), and (f) (page 120). (20 pts)