

# CS5800: Algorithms — Spring '21 — Virgil Pavlu

## Homework 2

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Name:

Collaborators:

### Instructions:

- Make sure to put your name on the first page. If you are using the  $\text{\LaTeX}$  template we provided, then you can make sure it appears by filling in the `yourname` command.
- Please review the grading policy outlined in the course information page.
- You must also write down with whom you worked on the assignment. If this changes from problem to problem, then you should write down this information separately with each problem.
- Problem numbers (like Exercise 3.1-1) are corresponding to CLRS 3<sup>rd</sup> edition. While the 2<sup>nd</sup> edition has similar problems with similar numbers, the actual exercises and their solutions are different, so make sure you are using the 3<sup>rd</sup> edition.

1. (5 points) Exercise 6.1-4, explain why.

**Solution:**

2. (5 points) Exercise 6.1-6, explain why.

**Solution:**

3. (10 points) Exercise 6.2-1.

**Solution:**

4. (10 points) Exercise 6.3-1.

**Solution:**

5. (15 points) Problem 6-2.

**Solution:**

6. (5 points) Exercise 7.2-1.

**Solution:**

7. (5 points) Exercise 7.2-2, explain why.

**Solution:**

8. (5 points) Exercise 7.2-3.

**Solution:**

9. (15 points) Exercise 7.4-1.

**Solution:**

10. (15 points) Exercise 7.4-2.

**Solution:**

11. (10 points) Exercise 7.4-3.

**Solution:**

12. (Extra credit 10 points) Problem 6-3.

**Solution:**