

CS2040S: Data Structures and Algorithms

Discussion Group Problems for Week 7

For: March 3–March 7

The main goal this week is to review for the midterm. I have posted CS2020 quizzes from 2015–2017, and the plan this week is to go over several of the problems from these quizzes. I would particularly recommend going over the following questions:

- Sorting Jumble (any of the three years).
- Algorithm Analysis (any of the three years).
- Matrix math (2015, Problem 5).
- Cool cats (2015, Problem 4 at the end from Quiz 2).
- The Marble Factory (2016, Problem 7)
- The Ultra Ultra Marathon/Running Man (2016, Problem 3 at the end from Quiz 2)

Solution: The solutions are in the Github folder "cs2040s/tutorials/Week 7", so we will not post the descriptions here. Some things to take note of though:

- For Algorithm Analysis, there are sometimes repeated options. However, there is always a valid answer to each and everyone of them among the given options anyway.
- For Marble Factory, take note that there is typo in (b), in line 6 of the given code. Currently it shows `if (num > T) return num + 1;`. This should actually say `if (num > T) return S+1;` instead.
- Again, there may be alternative solutions available other than what has been given.
- If you spot any other typos, or bugs in the given solutions/questions, do sound it out.