

Discrete Math & Functional Programming— CSCI 054— Spring 2025

Instructor: Osborn

Homework 1 - groupwork (1 point(s))

Due: 11:59PM on Thursday

- Please work on these questions at the start of your group's meeting time. Once you have something you're comfortable submitting (note that we are evaluating based on effort+participation, not correctness!) you can use the remainder of the hour (i.e. the time during which your group mentor will be available) however you'd like: you can ask conceptual questions, start to work on the assignment in pairs/triples, etc.
- The person that you designated in week01-ps should upload the responses as a single file to gradescope (making sure to add all the other group members on the submission!).

1. [.25 point(s)] week03-ps

Read through this week's problem set and discuss what each function does just to make sure that everyone understands what each function is supposed to do (specification). It may also be helpful to discuss the Luhn algorithm. **Note that you may not discuss actual code for any function in your entire group (implementation)! As before, if you want to work on code during the group meeting, then your group must break up into your problem set pairs/triples, each of which should work individually.**

Which function do you think will be the most straightforward to implement? The most complex? (No explanation necessary.)

2. [.25 point(s)] **palindrome** Write a function `isPalindrome` that takes a list and returns True if the list is the same either forward or backward. Do this in as many different ways as you can think of so that you can practice: list functions (e.g. `reverse!`), list recursion, pattern matching, if-then-else,
3. [.25 point(s)] **Group experience**

About how long did your group spend working on the first two questions? Does your group have any questions about the material?
4. [.25 point(s)] **Review** If there is some time in lecture on Thursday 2/8 for me to review some material in preparation for the checkpoint on Tuesday 2/13, what would you like me to cover? Please be as specific as possible so that I can use the lecture time as productively as possible. As an example, "functions" tells me less about what to talk about than "higher-order functions" which tells me less than "an example with explanation of using anonymous functions with `map`."