CMPU 101 § 2 · Computer Science I

Exam 2 Review

2 November 2022

Logistics

75 points / 75 minutes

Aim to budget your time as about one point per minute.

You actually have 120 minutes (the full lab period), so time shouldn't be an issue.

The exam will be on paper, with the computers put away.

Help me out: Write neatly and make your final answer obvious.

During the exam you can refer to one 8½×11-inch piece of paper, double-sided, with any notes you want hand-written on it.

Preparing this sheet of notes is an excellent way to study, encouraging you to consider what's important that you'll want to refer to.

During the exam, feel free to ask any questions.

If something on the exam is unclear (or a mistake!),
I'll give a clarification to everyone.

If a question is about what a problem is trying to
test, I may decline to answer during the exam.

All the sections of CMPU 101 are taking their exams on Friday, at different times.

You are on your honor not to discuss the contents of the exam with anyone until everyone has taken the exam.

> We'll let you know when everyone's taken it, but that might not be until some time next week.

Topics

The exam is, by necessity, cumulative, but the emphasis will be on topics we've covered since Exam 1.

You are generally responsible for the material in

A Data-Centric Introduction to Computing:

Chapter 9: Lists,

Chapter 10: Processing lists,

Chapter 11: Structured data,

Chapter 13: Recursive data, and

Chapter 14: Trees.

Classes 9–14,

Labs 5–7, and

Assignments 5–6.

You should expect approximately five questions,
along the lines of the following.

Problem 1

Step-by-step development of a non-recursive function that takes a list of numbers, and uses an anonymous function and a built-in list function in its body.

Like Problem 5 on the practice exam.

Problem 2

Expressions involving built-in list functions.

Like Problem 6 on the practice exam.

Problem 3

Given a recursive data definition, make examples, write a template, and a function.

Like Problem 2 on the practice exam.

Problem 4

Lists of structured data

Like Problem 4 on the practice exam

Problem 5

Given a data definition for a tree, and the diagram of a tree:

translate the tree diagram into its Pyret representation

design a function that takes a Tree, including all the parts a function should contain.

Like Problem 7 on the practice exam.