CMPT 225 Midterm Instructions
Midterm

When: Friday, July 7 – Lecture 24
12:30 – 13:20

Where: SSCC 9001

Duration: 45 minutes
(+ 5 minutes to organize ourselves)
What to study?

**Everything** we covered up until (and including) our lecture on Friday June 30 is subject to examination

- all material from Lecture 1 until and including our Lecture 22
  - Partial lecture notes + your own lecture notes
  - Labs 0 to 7, Assignments 1, 2 and 3
  - i-clicker sessions 1 to 6
  - All code, examples and readings posted on our course web site
  - Good Programming Style (GPS) on our course web site
Review for the Midterm

• Introducing Abstract Data Type (ADT)
  ◦ 4 steps of software development process
  ◦ What are some of the OO Principles:
    • Encapsulation, Information hiding, Single responsibility
  ◦ Software solution that
    • does not use a data collection ADT
    • use a data collection ADT
  ◦ What is data abstraction
    • How to achieve it (walls)
  ◦ How to design a data collection ADT (in general)
Review for the Midterm

- Binary Search Tree ADT
- Stack ADT
- List ADT (position- and value-oriented)
- Queue ADT
- Priority Queue ADT

- Characteristics
- Public interface
- Implementation
- Time efficiency of operations
- Where to use them!
Review for the Midterm

- Value-oriented data collection ADT and Sorting
  - Value-oriented List ADT
  - Priority Queue
  - Sorting algorithms
    - Selection sort
    - Insertion sort
    - Merge sort
    - Quick sort
  - How the algorithm functions
  - Time efficiency of best/average/worst case scenarios
  - What data looks like for best/average/worst case scenarios in terms of time efficiency
  - Space efficiency
  - How to improve time/space efficiency (if needed)
Tools for Study

- **Learning Outcomes** - at the beginning of each lecture notes
  - Use them to check your understanding and to determine what you need to study

- **Textbook**
  - Check Point Questions throughout sections of our textbook assigned as reading
    - See links to solutions to check point questions from our textbook on our Textbooks and Links web page
  - Exercises and Programming Problems
    - See links to solutions to selected exercises from our textbook on our Textbooks and Links web page

- **Practice midterm**
  - See link on our Exam Schedule web page
Format of Midterm

- **First section:** questions that require short answers
  - For example:
    - “Yes/no” or
    - “fill in the blank” or
    - a few words
    - etc…

- **Second section:** questions that require written answers
  - For example:
    - Drawing a data structure
    - Writing an algorithm or code
    - Writing an answer (in English)
    - etc…
Exam Seating Arrangement

Each intersection represents a seat in the classroom.

Represents a student seated at a seat.

Represents a vacant seat.

Front of classroom
EVERYTHING HERE (included cell phones)!
Except pens, pencils, eraser.
Once you have received your midterm, leave the midterm face up on your table
Read its instructions on its page 1
Please, do not touch, leaf through, or write your name on the midterm
  Why? Because it is unfair to all other students who have not yet received a midterm

When all students have received a midterm, you will be instructed to start the midterm
During the midterm

- If you have a question
  1. Have a look at the instructions on page 1 for an answer
  2. If the answer to your question was not on page 1, raise your hand and the instructor will attend to your question – the instructor is the only one that will be answering questions
At the end of midterm

- When you are told to
  
  Please, stop writing!

  please, do stop writing and hand in our midterm as instructed

  - Why? If you continue writing, it is unfair to all other students who have stopped writing
Questions?