CSCI 2270 – Data Structures

Guidelines for Create-Your-Own Final Project

PROJECT TIME!

Project submission by December 8th on Moodle.

Project Expectations:

You are expected to go beyond the level of assignment for the project. You can use some advanced data structure or the basic ones to solve an advanced problem. Try to focus more on the applications part of the data structure, instead of **recreating** the existing core data structures. We will be giving out a list of cool projects done by students before on Piazza!

Students are welcome to form groups of 2. Feel free to form a group with students from other recitations. **Inorder to make the process of evaluation smooth ensure your TA is informed of the project and teammates.**

Assuming hiccups will happen, it's good to start early. Since we have very limited time, there will be no possibility of extension at any stage of the project evaluation.

Project Evaluation and Stages:

Project evaluation is divided into **3 stages**. If you don't complete the evaluation at any of the stages, you will not be eligible for evaluation at subsequent stages.
Example: To receive grades for the 3rd stage, you should have completed both the 1st and the 2nd stage.

If you have formed a team with student(s) from other recitation section(s), you are free to choose either your TA or your teammates' TA for project evaluation. You are required to complete all stages of evaluation with the selected TA.

Stage 1: Project Proposal (to be submitted by November 18th on Moodle)

10% of the overall project grade

Requirement on 18th November: A project proposal of 1-2 pages describing the following:

1. Problem statement.
2. You are required to use a minimum of 2 data structure. One of them being a tree, graph, hash or/and heaps.

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3. Methodology: design or project flow diagram
4. Utility and Reason: where you plan to use a given data structure and why.

If you want, you can create flow charts using - https://lucidchart.com

Stage 2: Interview Grading (Floating deadline: December 1st - December 13th)

Grade: 50% of the overall project grade

This stage will focus on the code
Interview grading:
You are given the choice to interview between 1-7th December or 8th - 13th Dec, 2019.
Slots will be released on Moodle. Kindly book a convenient slot with your TA for the same.

Requirement:
If you chose to interview grade:

- ***December 1-7th(week -15):***
  - You are required to show **90%** of completed work.
  - You should complete aspects such as HTML/User interface functionality
  - You should have a working/compiled code for all but one of the core functionalities using the data structure mentioned in the proposal.
  - You are required to run demo of all the working components

- ***December 8-13th (week-16)***
  - Should be done with the **100%** of the project as per the proposal.

Stage 3. Project submission(to be submitted by **December 8th** on Moodle)

Grade: 40% of the overall project grade

Requirement:

Turn in:

1. All code components of the project, i.e. header files (.cpp), main, cpp files with functionalities, and any other additional files you've used.
2. A short report (max 2 pages)

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- Data structure: Describe the use and purpose of the data structures in your project. We would request you to add references, if you used any.
- Methodology: include some pictorial representations to explain the flow or design of your project. (Use https://lucidchart.com to create flow diagrams)
- Data: description of the data used
- Results: add some of the final outputs which you achieved through your project.

3. Add a README file showing commands you used to compile and run the program.
4. Sample Output of all the functionalities. Ideally in the form of screenshots pasted into a word document.

Upload everything as a **zipped folder** as a submission on Moodle.

We would assign some portion of the grades for following the coding standards: indentation, space, new lines, meaningful variables and method names. It is recommended to use Github for your project (although it's not mandatory). Make sure you have your code backed up regularly since last moment laptop problem excuses will not be granted.

We will also need a detailed description of the contribution of each of the team members. We will be releasing a peer feedback form for the same where each of you will rate your peer (team members) on a scale of 5!

Extra credit: Final Presentation (**December 12th** in recitation)

15% of the overall project grade

Students can choose to give their final demo and presentation in your recitation for **extra credit**. You can prepare a poster or a slideshow for your project and showcase your project on that day. An example poster will be posted soon on Piazza. You will present your project in your recitation.