

CSC248 – FUNDAMENTALS OF DATA STRUCTURES

ASSESSMENT#2 - GROUP PROJECT (20%)

Overview

This project aims to develop students' problem-solving strategies, techniques and analytical skills that can be applied to Computer Science field. Students are required to identify a problem, design appropriate solution and solve the problem in computerized way. This project will emphasize on the implementation of data structures with the use of java programming language to illustrate the methods.

Instructions:

1. Create a group with the maximum number of **four (4)** students OR minimum number of **three (3)** persons.
2. Groups are required to find and solve **one problem which arise in our daily life**. Then, develop a system to solve the problem. The system must fulfil the system requirements listed below:
 - i. Correctness
 - The system can solve the stated problem and output should be according to the specifications.
 - ii. Reliability
 - The system should function accurately and correctly for a period of time over all ranges and combinations of data.
 - iii. User friendliness
 - Easy to use with enough information and well-designed I/O interface. GUI-based interface will score highest points.
 - iv. Efficiency
 - Apply **one of the data structures** that covered in CSC248 and provide appropriate output.
 - v. Readability of code
 - The source code should be simple and easy to understand.

3. Assessment Criteria

a. Project proposal

Each group is required to prepare a project proposal according to the proposal guidelines as stated below:

- *Group members information (student id, student name, group)*
- *Project Name*
- *Group organization*
- *Introduction: describe your project briefly*
 - *State the problem statement(s), data structure that has been chosen, and the application of sorting and searching algorithm in the project.*
- *The objectives of the project -3-5 objective- (the functionality of the system).*
- *Specify each of the student job tasks (based on objective).*

b. Source Code

- i. Write a complete coding for the whole project (**include all related classes**)
- ii. Develop program according to the proposed idea. **Program should implement one of the data structures.**
- iii. Apply at least **TWO (2)** basic algorithms: sorting and searching.
- iv. Should have input (data to manipulate) and output (the result from the manipulation data).
- v. Program testing should use fictitious data and should provide sample of input and output data.
- vi. Produce a program which is not only functionally correct, but also well-structured, well-documented and readable.
- vii. Every important statement should have comments indicating its purpose.

- c. Project Documentation (Final Report) and presentation**
 - i. Consist of project requirement **a & b**.
 - ii. State the strengths and weaknesses of your project.
 - iii. Include evaluation form in your report.
- 4. Your **program** must be presented in class during week 13.