

# CS261 – Data Structure & Algorithms

## Mid Term Project Guidelines

### Guidelines:

1. Mid Term Project will be done in group of two to three members.
2. Groups cannot be made across sections.
3. Students can pick project according to following Requirements.

Project Domain	You can choose any entity for the mid term project such as pharmacy, journal articles, books, products, students etc.
Count of Entities	At least 1 million entities should be scrapped. Scrapping tasks has the option to pause, start, resume and stop, with the progress bar showing the progress of tasks/ number of entities scrapped. Attributes of entity should be at least 7. Bonus: UI has the option to take URL as input and scrap.
UI Requirements	UI should be designed using any python UI library preferably PyQt. One page should display the list of chosen entity.
Sorting	<ul style="list-style-type: none"><li>• UI should have the option for sorting of each column. User has choice to choose any algorithm for sorting for a particular column.</li><li>• Number of algorithms for sorting should contain all those algorithms studied in class and at least three additional algorithms.</li><li>• After sorting of column, display time in milliseconds.</li></ul>
Searching	<ul style="list-style-type: none"><li>• UI should have the option for searching based on each column. User has choice to choose any algorithm for sorting for a particular column.</li><li>• Advanced filters for string columns should be implemented such as contains, end with, starts with etc.</li></ul>
Multi-Level Sorting	<ul style="list-style-type: none"><li>• User should be option to sort using multiple columns.</li></ul>
Multi-Columns Searching	<ul style="list-style-type: none"><li>• User should have the option to search using composite filters such as AND, OR and NOT</li></ul>

4. Working on implementation will be started from October 7, 2022. Gitlab Repositories should be created from October 7, 2022 and add [samyan.uet@gmail.com](mailto:samyan.uet@gmail.com) as collaborator.
5. Progress on project will be tracked from Gitlab accounts
6. Project will be evaluated based on rubrics shared in Point 3.
7. Name of repository should be in this format: CS261F22PIDxx e.g. if group id is 9 then repository name should be CS261F22PID09
8. Bonus tasks will be compulsory for the groups having 3 members.
9. Deadlines will be as followed:

Milestone	Deadline
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Project Idea Submission	October 5, 2022 Idea Acceptance will be shared with project ID after submission of proposal.
Project Proposal	October 8, 2022 (EDUKO) October 10, 2022 (Hard Form) Proposal template should be professional and list down problem statement, attributes of entity, requirement and UI look in pencil tool. Use the shared template.
Scrapping	October 15, 2022 Required output is one million items scrapped. CSV file is required with mentioned data
UI Implementation	October 19, 2022
Sorting Algorithms	October 23, 2022
Integration	October 28, 2022
Project Report	October 30, 2022