# Program 2 Proposal

## 1 Group Memebers

Student 1: Guang Xu ID:998309428 Student 2: Christopher Ng ID:998311403

### 2 Project & Language

Project: QuickSelect vs. DeterministicSelect

Language: C++

#### 3 Tasks

- 1. Implement QuickSort.
- 2. Implement DeterministicSelect.
- 3. Modify one sorting algorithm to select the k<sup>th</sup> element. (Possible Option: QuickSort, MergeSort, InsertionSort).
- 4. Implment Bash script for sanity check on all three programs.
- 5. Implment Bash script for data gathering.

#### 4 TimeTable

- 1. Data Size:  $10^2$ ,  $10^3$ ,  $10^4$ ,  $10^5$ ,  $10^6$  integers.
- 2. Sample Size: 200 files.
- 3. Collectable Data: Time, Partitions, Compares.