Question 1 – You need to create a document that outlines what you are planning to make that comprises the following:

## What data structures are you using?

I will use 2 dimensional Array. It is an array containing more than one level or dimension. It is a matrix of rows and column.

## Where are you using hashing techniques?

I will SHA256 hashing technique in my program. I will use on my login form; it will require user to input id and password before getting into main form.

## What sorting algorithm are you using how this is different from selection and bubble sort?

I will use bubble sort in my program.

Bubble Sort:

* Works by repeatedly stepping through lists that need to be sorted, comparing each pair of adjacent items and swapping if in the wrong order.

Selection Sort

* Achieved better performance and more efficient than bubble sort, it works by selecting the element and swapping the particular element with the last element. The selected element will depend on the order, it could be the largest or the smallest.

## What searching technique are you using?

I will use binary search for my program. Binary search is a search algorithm that finds the position of a target value within a sorted array.

## What third party libraries are you using?

I will use LumenWorks CSV reader as third part library for my program. It is allows program to open csv file and display in program

## Where can I find the documentation for this?

I will upload to GitHub as it is my source control. I will upload my program and documents on GitHub to keep on track.

## A mock-up of the GUI.

A screenshot of a cell phone

Description automatically generated

## What source control are you using?

I will use GitHub as my source control.

## What are your coding standards you are enforcing?

* Always use camel case while declaring variables
* Always use pascal case while declaring class, constructor, properties and etc.
* Write only one statement per line
* Use try catch statement for most exception handling

## What tests are you going to run?

* Test on binary search algorithm – able to search and display correctly
* Test on bubble sort – sort the elements correctly
* Test on SHA256 to ensure the login form is working in different situation (login successful / fail)