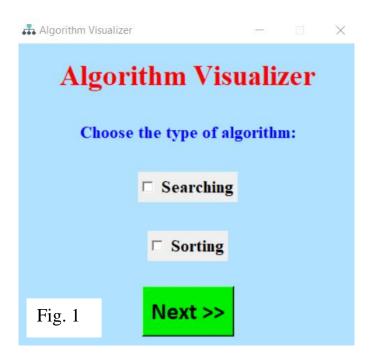# Report

Algorithm Visualizers

A graphical user interface (GUI) to visualize different **searching (binary search, linear search)** and **sorting algorithms (merge sort, quick sort, insertion sort, bubble sort)** using python library Tkinter.

Implementation

Main window

The first window is dedicated to select the algorithm type (searching or sorting). There are 2 checkboxes and each one corresponds to an algorithm type. The user is expected to select the type and click on the "Next" button. The "Next" button will take you to a new window depending on the algorithm type selected. If either more than one type is selected or if none is selected an error message pops up. For exit, it will show a warning message to check if you really want to exit or not. Fig.1 shows the screenshot of the main window.

Fig. 1

Second Window

This window contains checkboxes corresponding to the type of algorithm selected in the previous window. The user is expected to select any one from the list and click on the "Submit" button. The "Submit" button will take you to a new window depending on the algorithm selected. The error and the warning messages are similar to that of previous window. Fig.2 shows the screenshot of this window when the "Searching" algorithm is chosen by the user.

Q Algorithm Visualizer

Choose the type of searching algorithm:

☐ Linear search

☐ Binary search

Submit

Fig. 2