Lab Manual for CS-108P (Data Structure and Algorithms)

The aim of this practical is to reinforce some of the ideas about types you have met in the lectures, and to reinforce ideas about the difference between compile-time and run-time checking on Array, List and Linked List. In addition, you will practice your skills in coding with Linked lists, Lists and arrays.

You are going to experiment with the contents of an Array, List, and Linked List to illustrate some points about the types of elements of the data types.

You will see how troublesome it can be when a list structure is of type.

- You may use any programming language of your interest (C, C++, Java, Python etc) to execute your program.
- The code is very simple.
- Run the application to see what it does.
- Use the debugger to inspect objects and step through the code.
- You may get a warning from the compiler about unsafe operations; that's what this example is about.

Problem-1: Write a program to add, delete, search, and sort an element from the Array.

Problem-2: Write a program to add, delete, search, and sort an element from the List.

Problem-3: Write a program to add, delete, search, and sort a node from the Linked List.

Problem-4: Write a program to connect a node to make circularly linked from the Linked List.