NORTH WESTERN UNIVERSITY

Report

Course Code: CSE-2104
Course Title: Data Structures Laboratory

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Contents

1.Introduction *2*

2.Objectives *3*

3.Description: *3*

Array: *3*

Linked list *3*

4. Dependencies: *5*

1.Introduction

An array is a linear data structure that collects elements of the same data type and stores them in a contiguous memory locations.Arrays work on an index system starting from 0 to (n-1),where n is the size of the array. A linked list is the most sought-after data structure when it comes to handling dynamic data elements. It consists of a data element known as nodes,each node consists of two fields: data and address,that keeps a reference to the next node. All the nodes connected together via the links.

2.Objectives

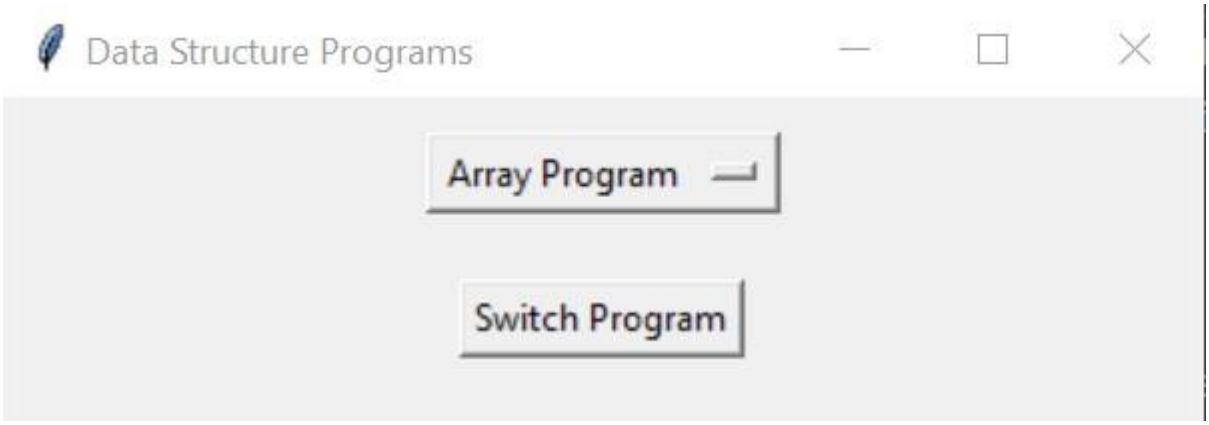
The purpose of this lab project was to design and implement array and linked list. The objective of this project is to do the operations of array and linked list and to create a program that can analyze the source code of a programming language. The program should accurately recognize and categorize tokens such as keywords, identifiers, literals, operators, and punctuation symbols and get the line number.

3.Description:

In this user manual guide,users can find detailed descriptions and examples that describe many common tasks that an user can accomplish with array and linked list.

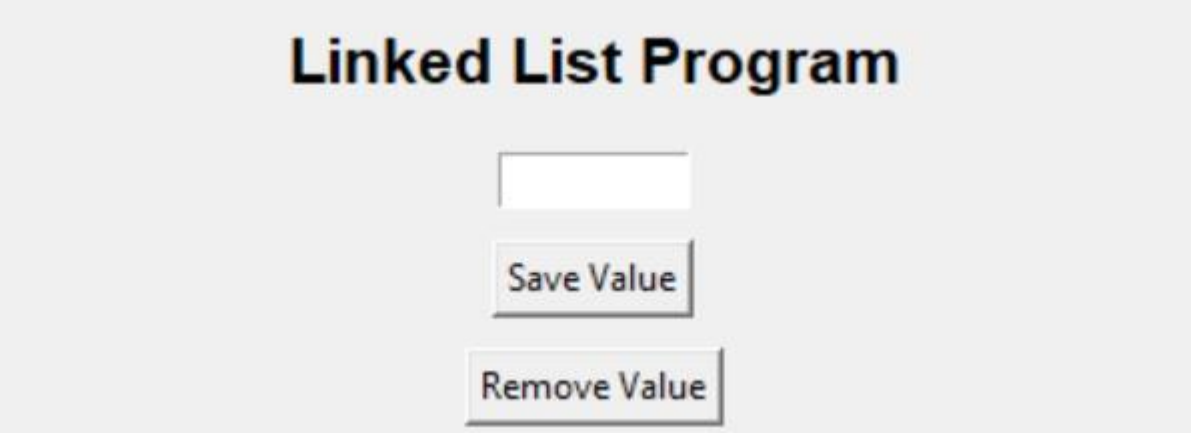
1.Array:

Firstly, when we run the main source code,a window like below will appear. When we click array program and swich program button,the operations of array like search,insert and delete will be held.

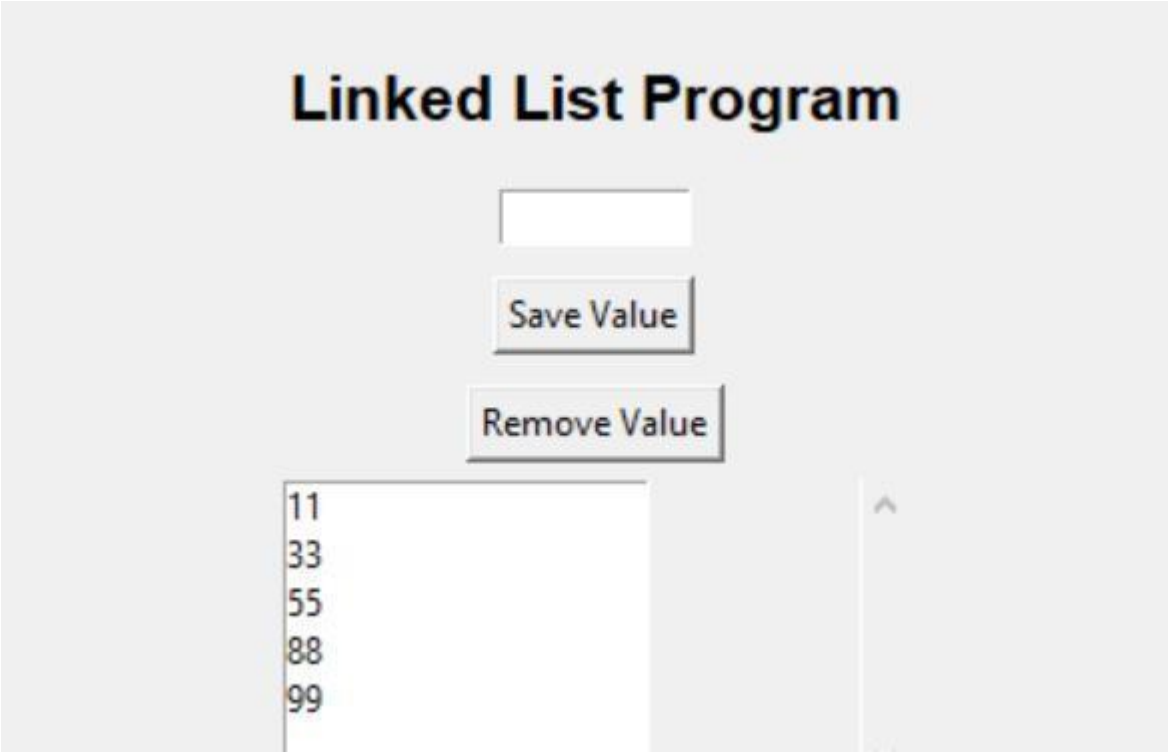


2.Linked list:

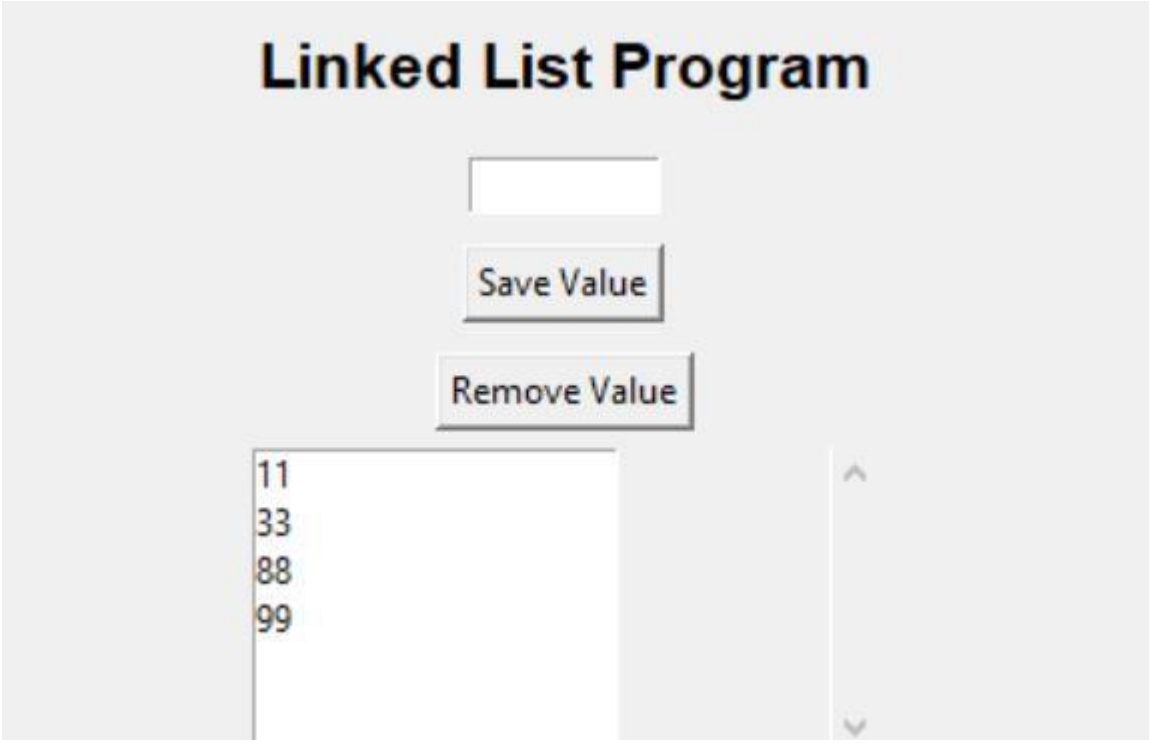
Secondly,when we click switch program button and linked list button,a window with linked list program will appear like below linked list



Here we can take values and by clicking ‘save value’ button’the value we choose will save in the display window.



Thirdly, after input the values, we can remove any value we want. If we want to remove the thired value, we have to input the 3rd value above and click the remove button. Then the value will be removed and the output window will be like –



4. Dependencies:

1.PyCharm: The Library Management System (LMS) is built on PyChar framework. So PyCharm framework is needed to run this system properly.

2.Python 3.9: PyCharms built in "Python 3.9" is needed to run LMS properly. Also,notification class and configurations is need to set the notification of various actions.

3.Need to install many PyCharm packages to run this project properly.