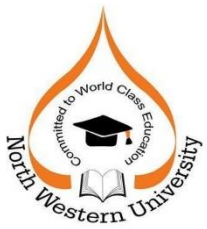
NORTH WESTERN UNIVERSITY



Report

Course Code: CSE-2104

Course Title: Data Structures Sessional

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Table of Contents

1.Introduction……3
2.Objectives.....3
3.Description……..3

GUI Page……3

Array……..4

Link List…….5

4.Dependencies……9

1.Introduction

Array is a special variable, which can hold more than one value at a time. It is a collection of elements of a similar data type. Arrays in data structures help solve some high-level problems like the "longest consecutive subsequence" program or some easy tasks like arranging the same things in ascending order. Linked List is an ordered collection of elements of the same type in which each element is connected to the next using pointers. A linked list is a collection of nodes. The first node is called the head , and it's used as the starting point for any iteration through the list. The last node must have its next reference pointing to None to determine the end of the list.

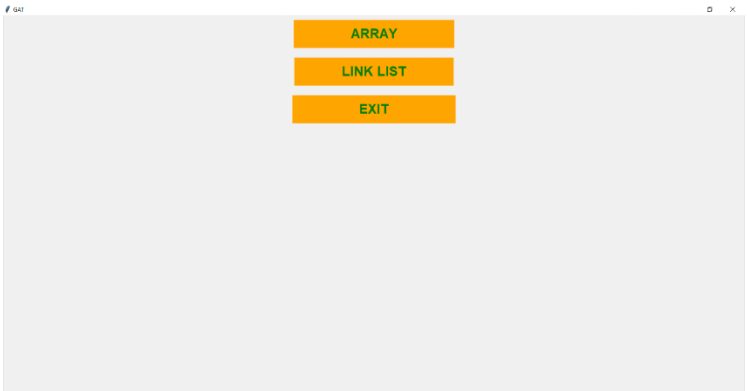
2.Objective

The purpose of this lab project was to create a GUI for array and link list. Python offers multiple options for developing GUI (Graphical User Interface). Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications.In this lab project we used the tkinter method.

3.Description

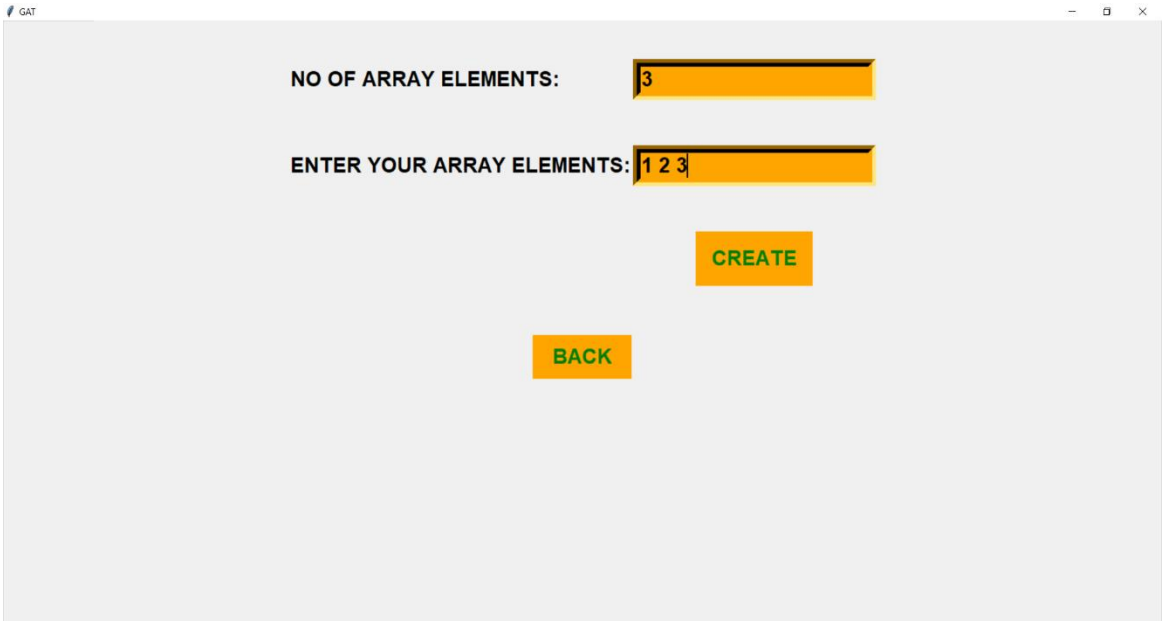
➡ This is the user interface of python tkinter.It represent the array and link list.

GUI:

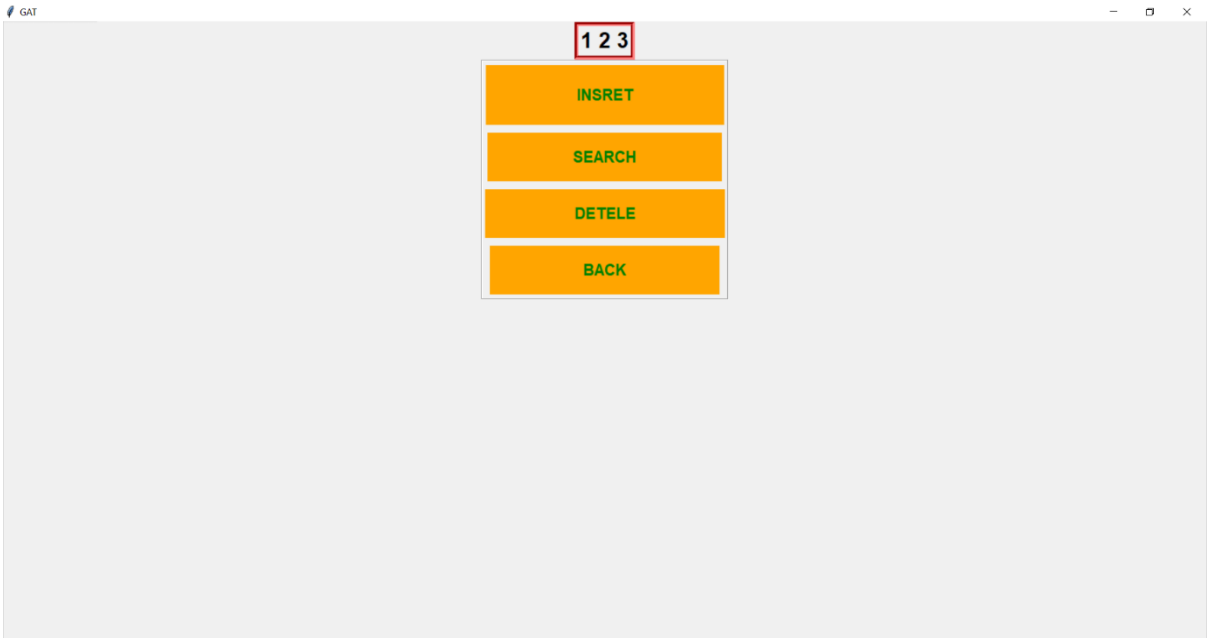


Array:

➡By pressing the Button “ARRAY” user are able to go the next page.

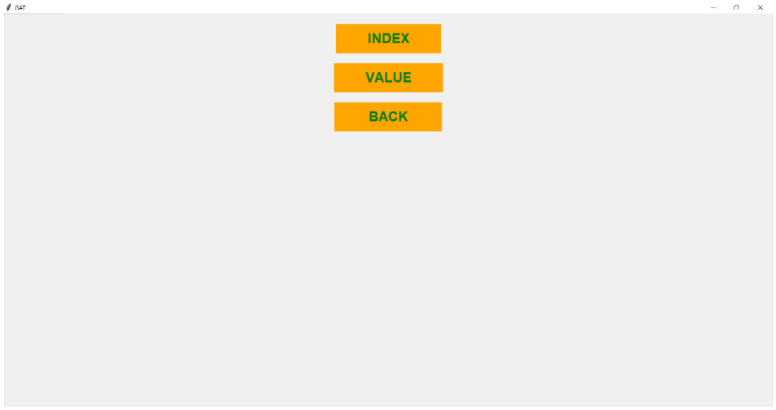


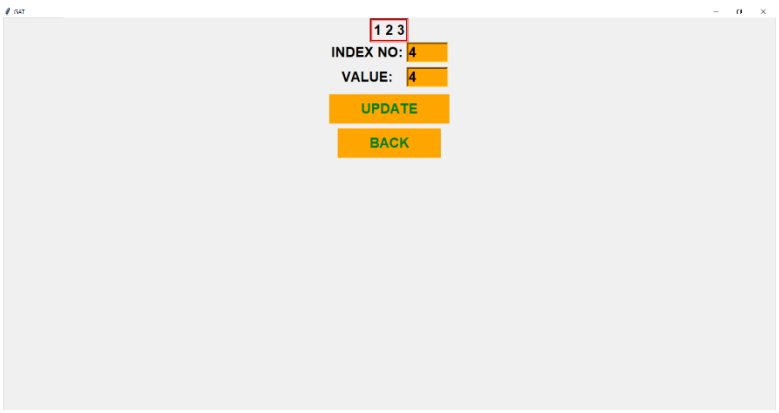
User Input: User can input array elements here.

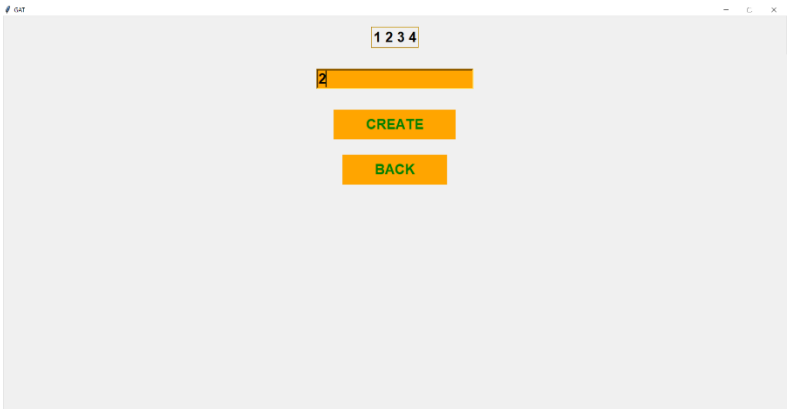


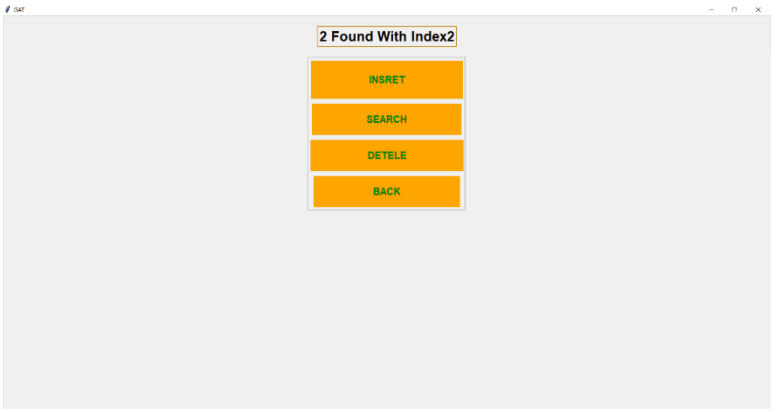
➡Press the CREATE Button for create the Array.

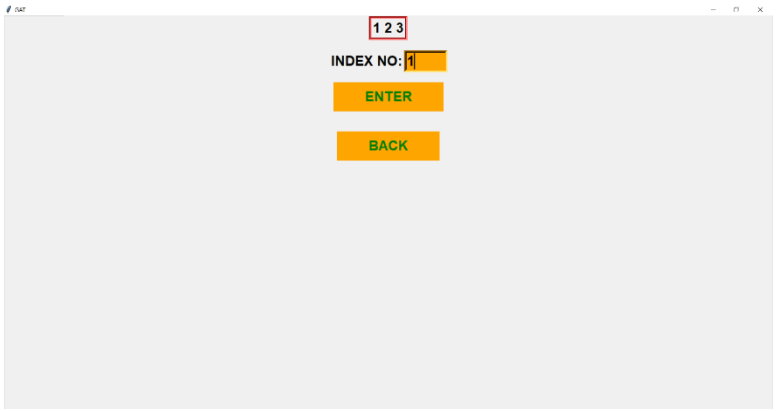
By pressing INSERT,SEARCH and DELETE button user can Insert,search and delete the array elements respectively

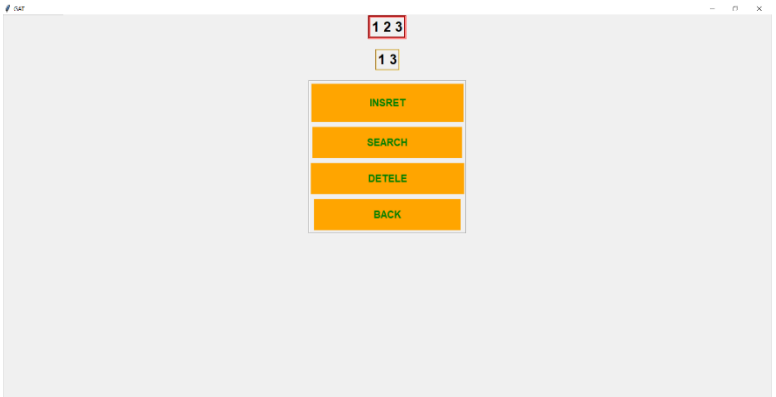




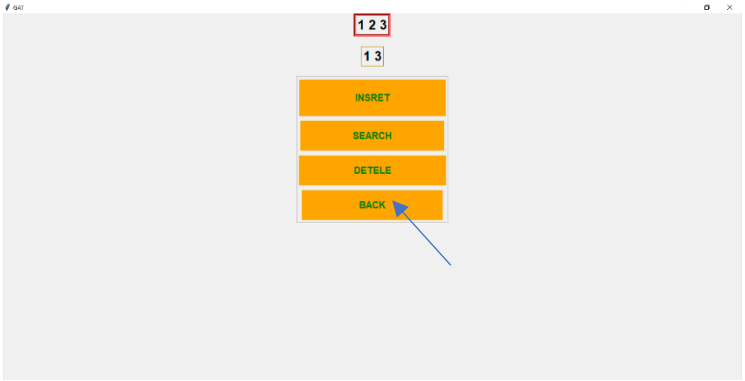






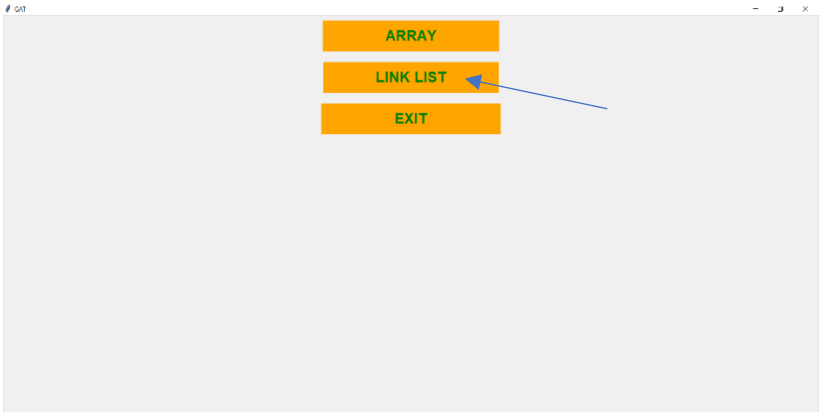


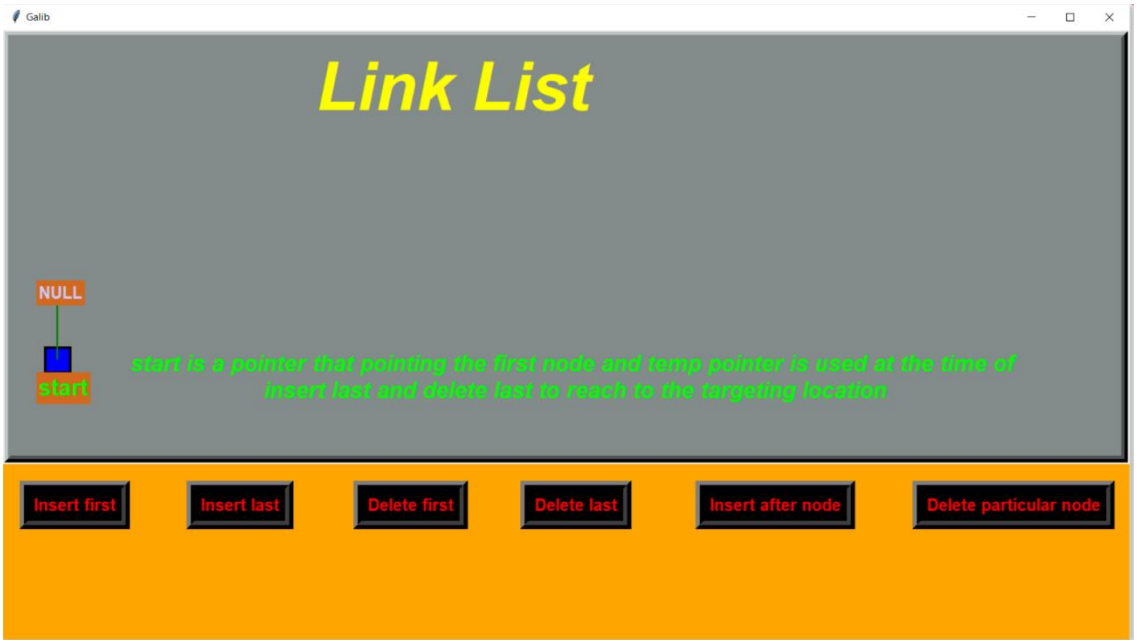
Press the back button for backwards.



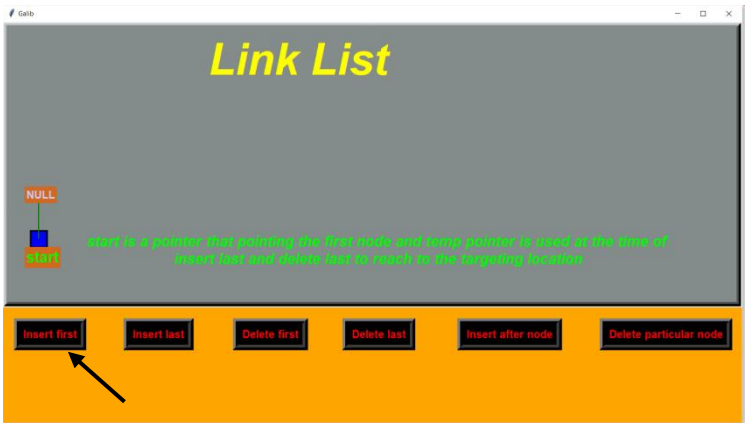
Link List:

➡ By pressing the Button “LINK LIST’’ user are able to go the next page.





➡ User can insert a null by pressing the button Insert first.



➡User can insert a null after the first node by pressing the button “Insert last”

➡For deleting a node user can use “Delete first” or “Delete last button”.It works first and last node delete respectively.

➡ “Insert after node” button use for insert a null after a particular node and “Delete particular node” button use for delete a particular node only.

4.Dependencies

Visual Studio Code IDE: Visual Studio Code IDE quickly and easily run the python code.For built the project we use python language.After install all the extension for python language in visual studio code the project run successfully.

20 June, 2023

North Western University

Khulna,Bangladesh