NORTH WESTERN UNIVERSITY

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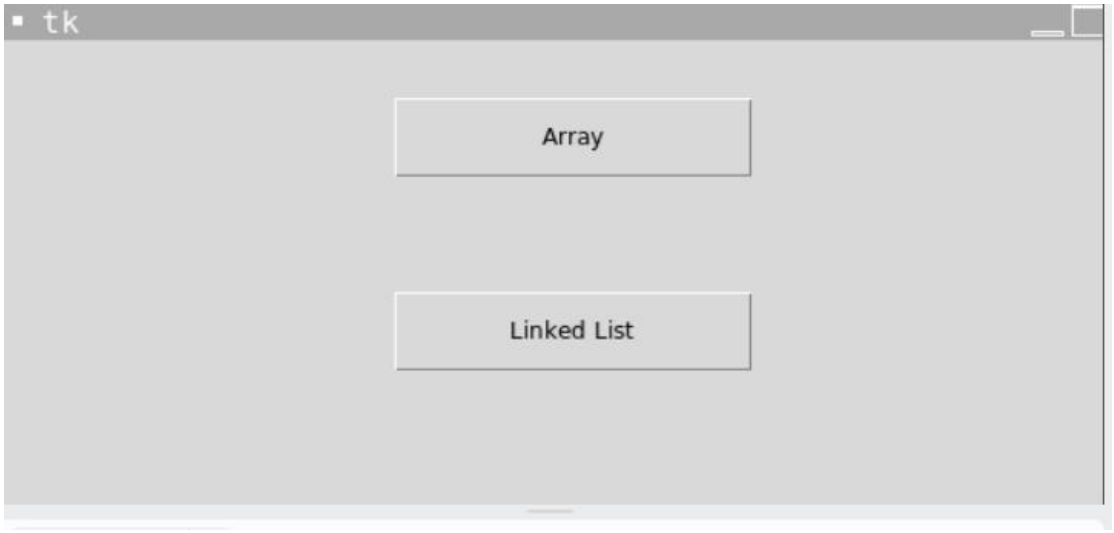
User Manual for the Python Tkinter Array and LinkedList Program

User Manual for the Python Tkinter Array and LinkedList Program This program is an interactive tool

for performing operations on two common data structures: arrays and linked lists. It uses Python's built-in tkinter library for the graphical user interface, so users can easily interact with the data structures and visualize the results in real time.

BELOW is the step-by-step guide on how to use the application.

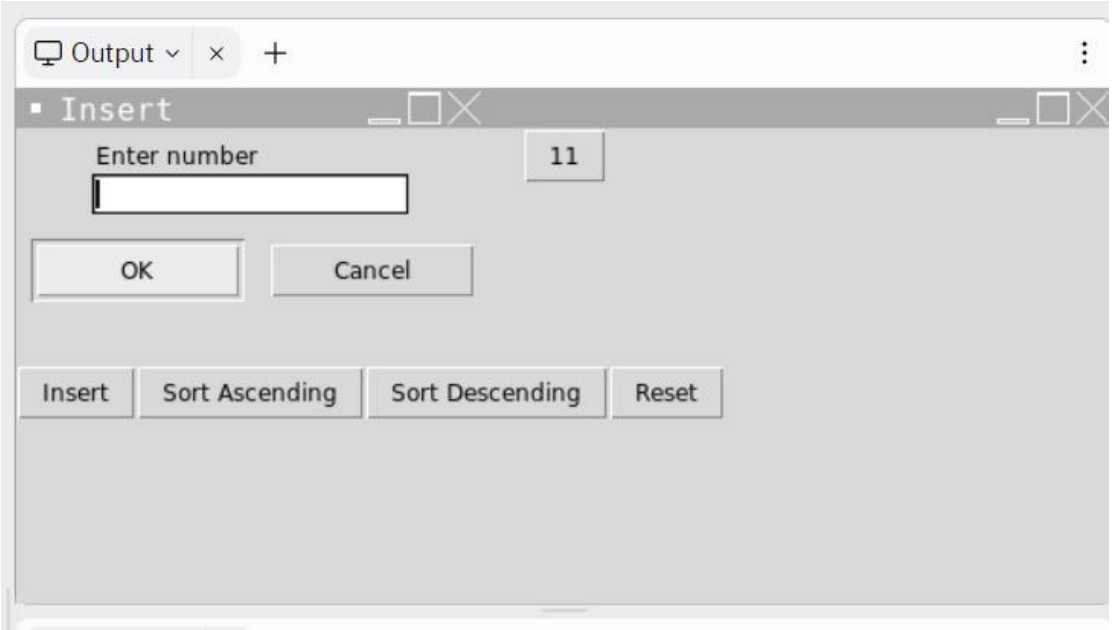
Step 1 - Starting the program: When the program is run, the main menu will appear with two buttons: 'Array' and 'Linked List'. Clicking on either button will open a new window where you can interact with the chosen data structure



Step 2 - Selecting the data structure: Click on the 'Array' button if you wish to work with an array. An 'array operation' window will open. Click on the 'Linked List' button if you want to work with a linked list. A 'linked list operation' window will open

Step 3 - Using the Operation Window: The Operation Window has several buttons allowing various operations on the chosen data structure: Insert: Adds a new element to the end of the array or linked list. Clicking this button will prompt you to enter a number to be inserted. Sort Ascending: Sorts the

elements in ascending order. Sort Descending: Sorts the elements in descending order. Reset: Clears all the elements from the current data structure and returns you to the main menu. Once you've inserted some elements, they'll appear as individual buttons in the operation window. Clicking these buttons will open a new window with more options (detailed in Step 4).



Step 4 - Element Operations Window: If you click on an element (displayed as a button) in the operation window, a new window opens with additional options: Delete: Removes the selected element from the array or linked list. Replace: Replaces the selected element with a new number of your choosing. Insert After: Adds a new number immediately after the selected element. Insert Before: Adds a new number immediately before the selected element. After selecting any operation, a dialog box will appear for you to input the necessary data. Once you've completed the operation, the window will close and the changes will be reflected in the operation window. Please note that the 'Replace', 'Insert After' and 'Insert Before' operations will prompt you to enter the new number to be inserted or replaced with.

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Step 5 - Returning to the Main Menu: Clicking the Reset button in the operation window will clear the data structure and return you to the main menu where you can select a different data structure or repeat operations on the same data structure. In conclusion, this program provides a hands-on, visual way to

interact with arrays and linked lists, making it an excellent tool for both beginners learning about these data structures and for experienced users who want a simple interface to manipulate them.