

# NORTH WESTERN UNIVERSITY



## Report

**Course Code:** CSE-2104

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A Linked List based Python Tkinter Project with functionalities like Create, Update, Add & Remove

## **1.Introduction:**

Python is a dynamic, interpreted (bytecode-compiled) language. There are no type declarations of variables, parameters, functions, or methods in source code. This makes the code short and flexible, and you lose the compile-time type checking of the source code. Python tracks the type of all values at run time and flags code that does not make sense as it runs.

Python is developed by **Guido van Rossum**. Guido van Rossum started implementing Python in 1989. Python is a very simple programming language so even if you are new to programming, you can learn python without facing any issues.

**Interesting fact:** Python is named after the comedy television show Monty Python's Flying Circus. It is not named after the Python snake.

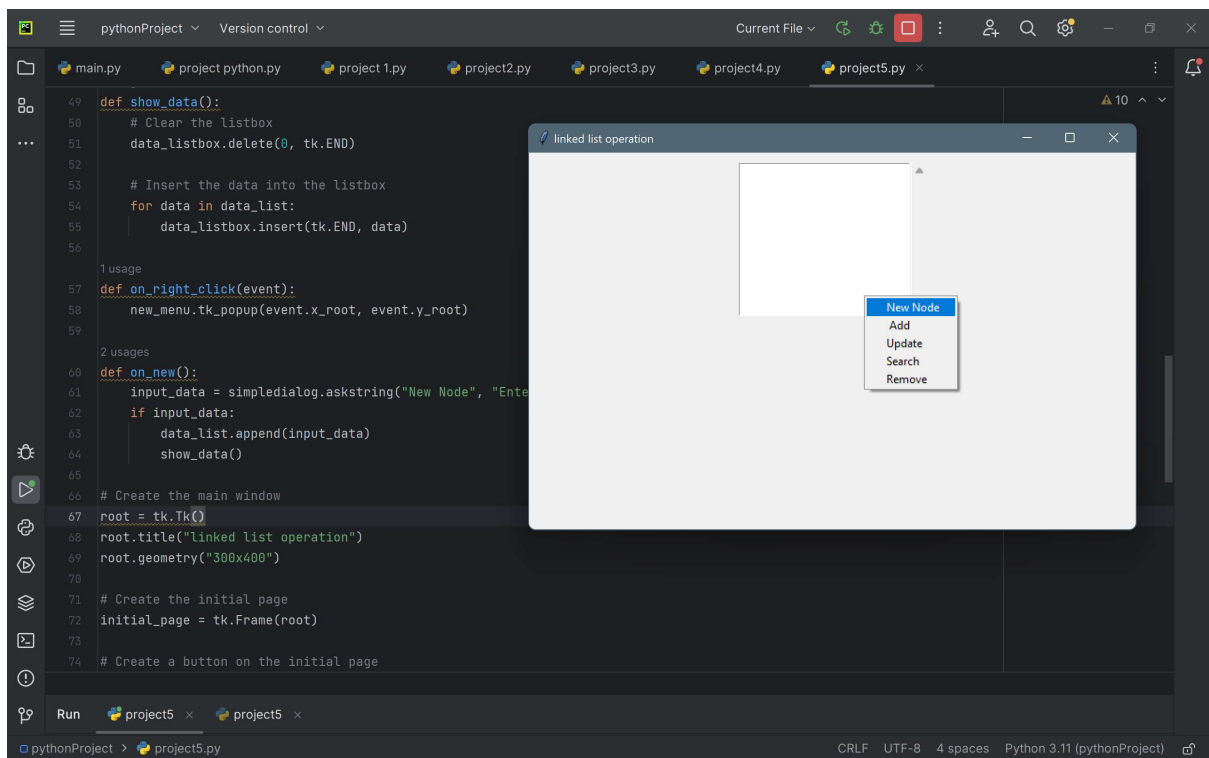
Python is widely used in data science, machine learning, and artificial intelligence due to its simplicity and powerful libraries. Similarly, JavaScript is the most popular language among web developers as it gives the developer the power to handle applications via different frameworks like React, Vue, Angular, which are used to build beautiful user interfaces. Similarly, they have pros and cons at the same time. so if we consider python it is general-purpose which means it is widely used in every domain the reason is it's very simple to understand, scalable because of which the speed of development is so fast. Now you get the idea why besides learning python it doesn't require any programming background so that's why it's popular amongst developers as well. Python has simpler syntax similar to the English language and also the syntax allows developers to write programs with fewer lines of code. Since it is open-source there are many libraries available that make developers' jobs easy ultimately results in high productivity. They can easily focus on business logic and its demanding skills in the digital era where information is available in large data sets.

## **2.Objective:**

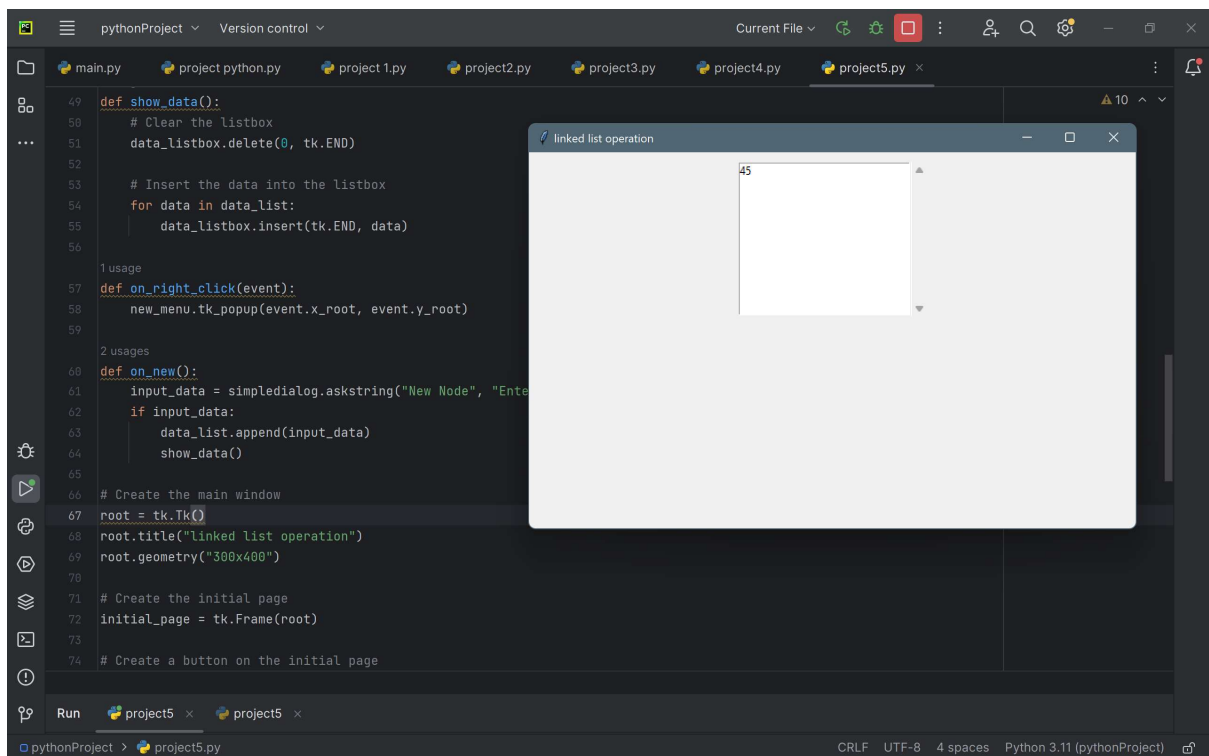
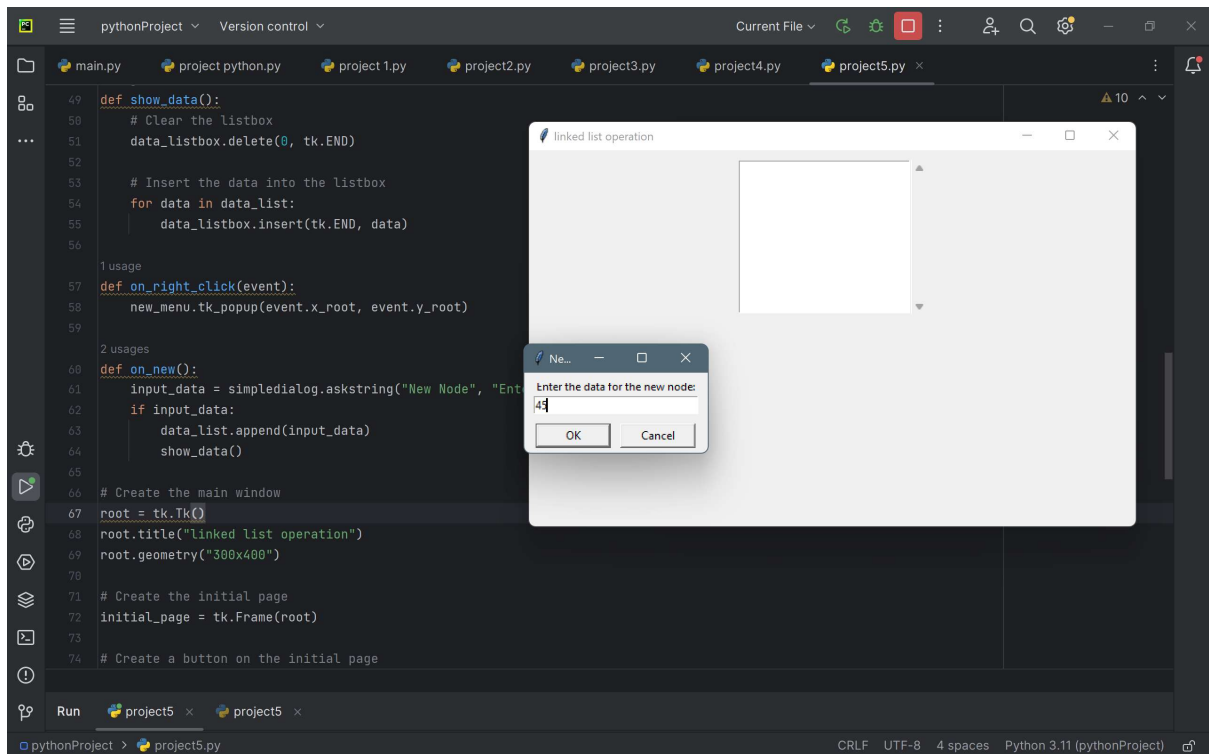
The objective of the project is to exhibit some functions in linked list like create, add, update, remove using python tkinter.

### 3.Description:

At first by right clicking we get some options. Among them we need to select the option **"New Node"**.

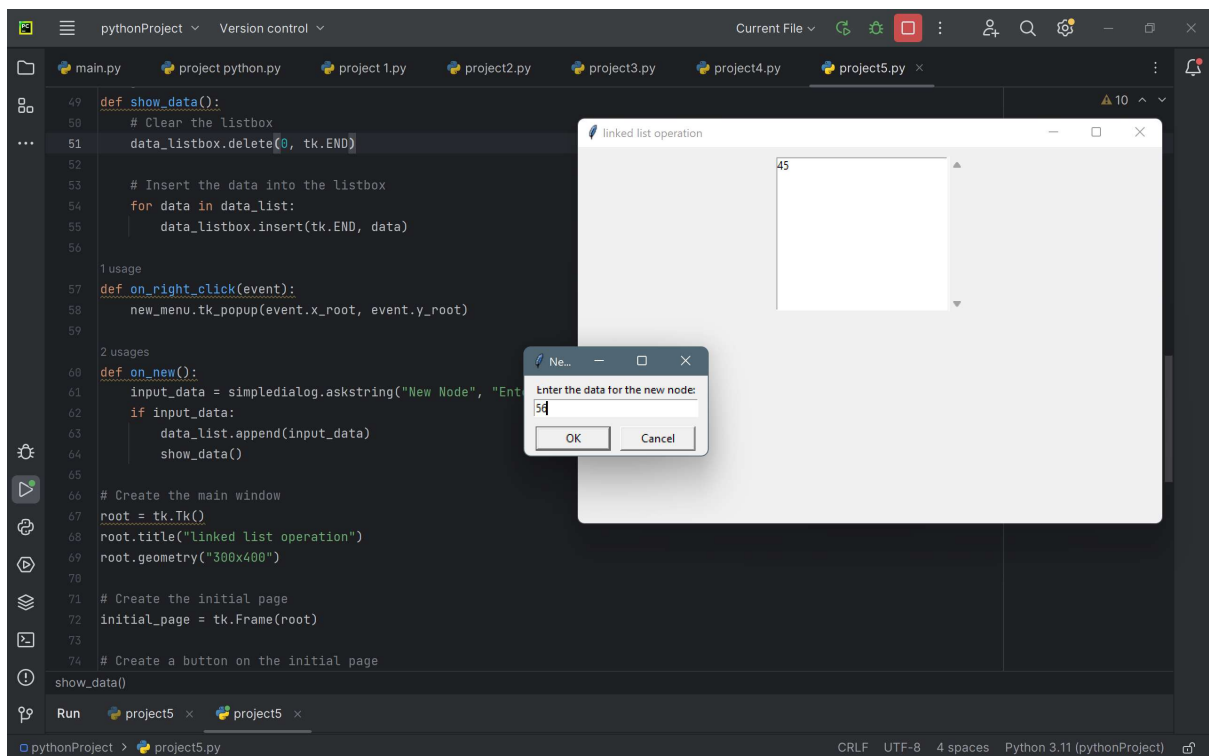
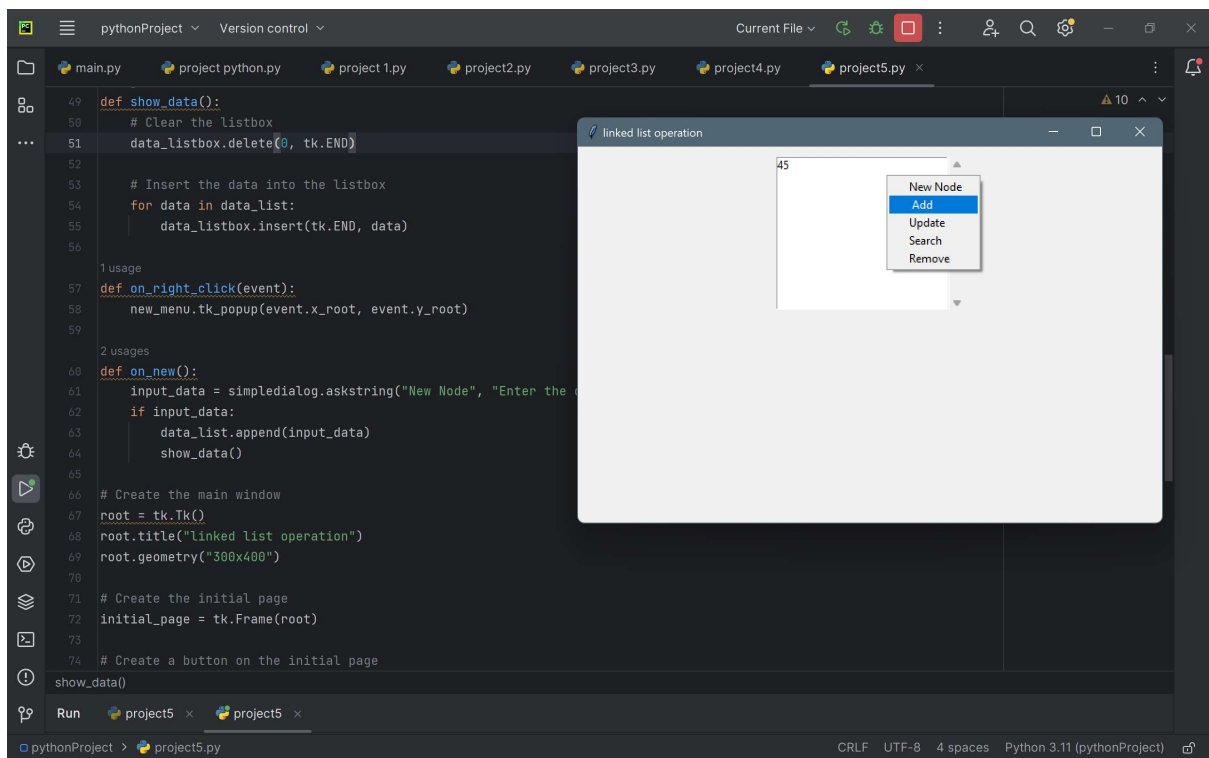


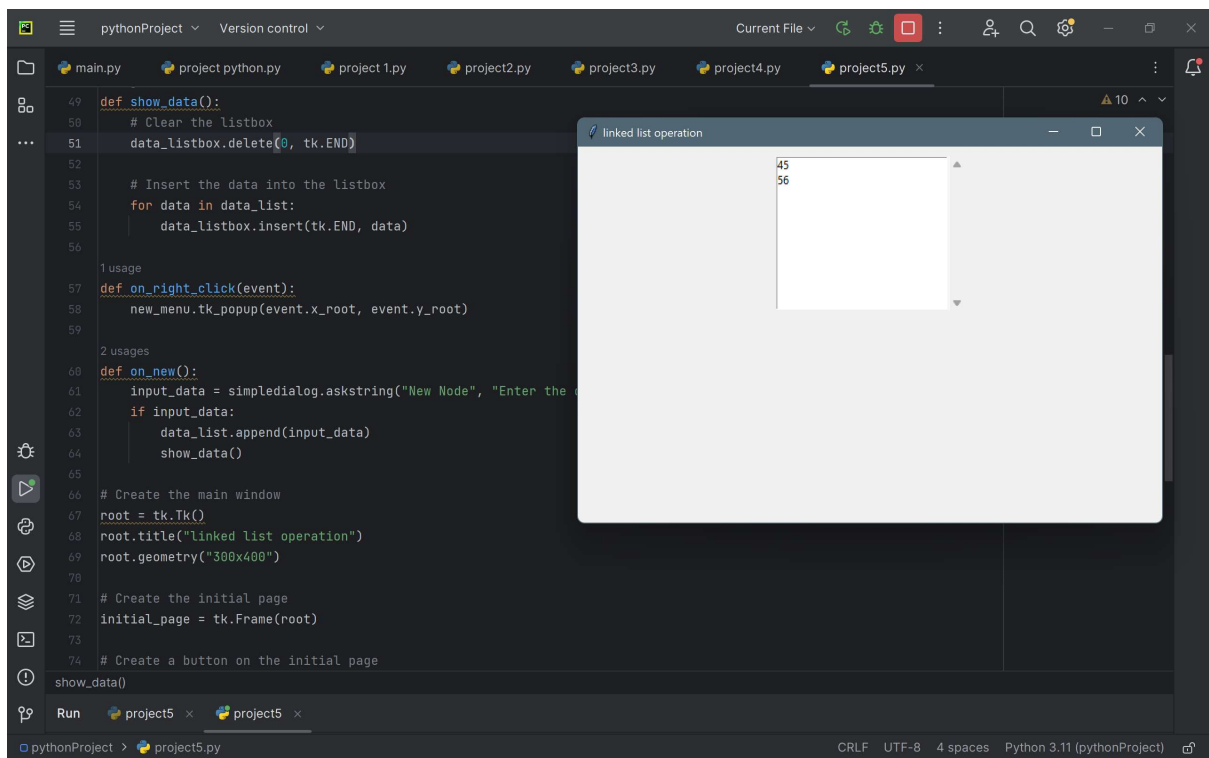
Then we will get a box where we can enter our new node and press enter. The value will be displayed on the screen.



Now if we click on the value we will get more options on which we want to work on.

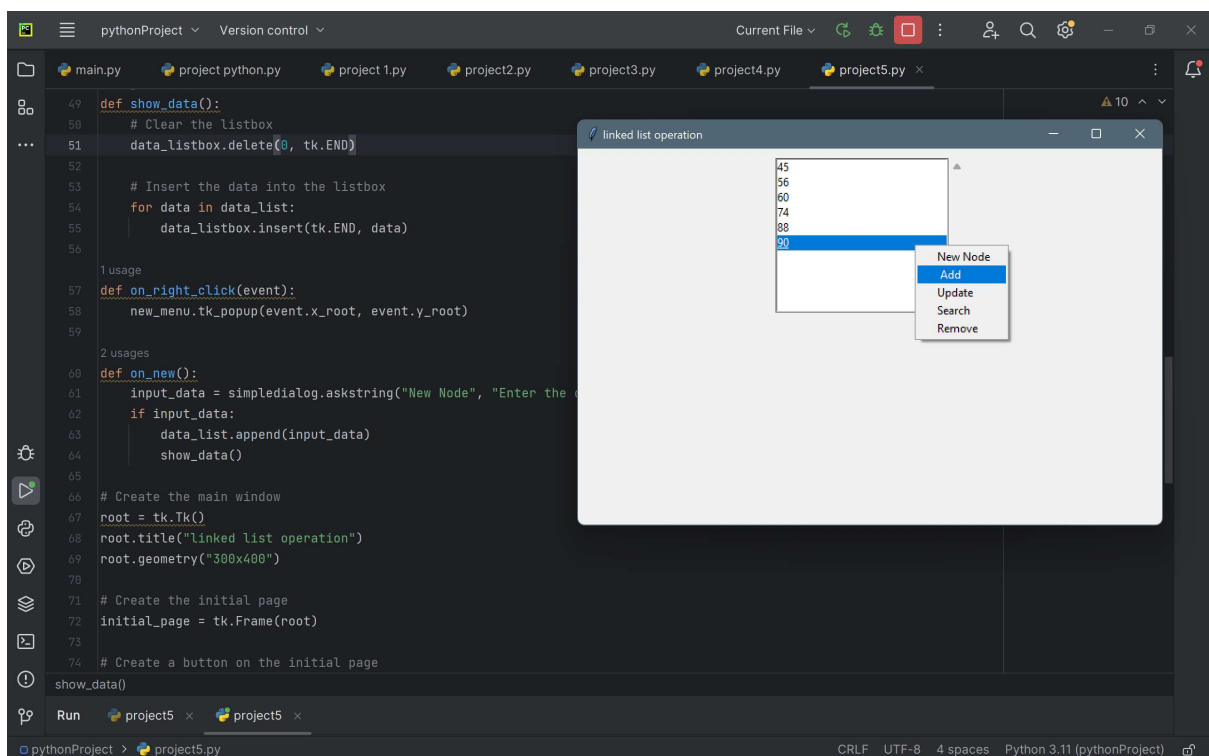
If we select **"Add"** another node will be displayed and press enter. The value will be displayed on the screen.





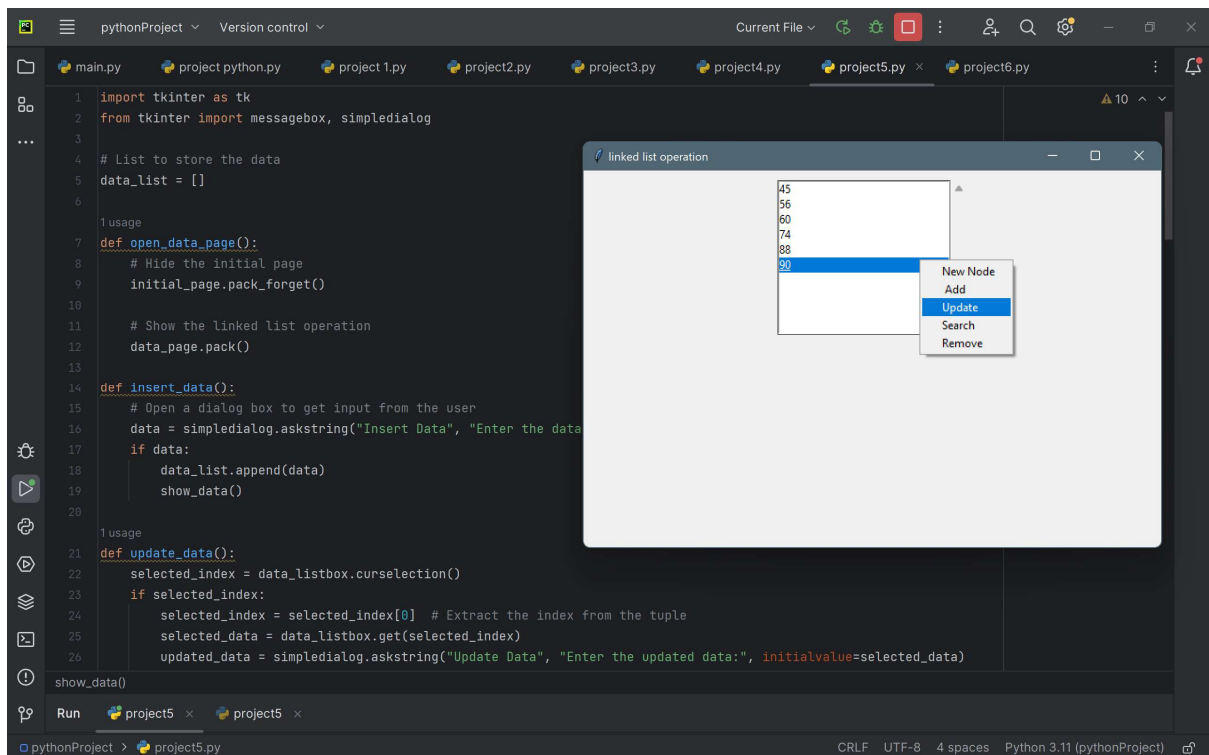
Here a value is added.

Similarly we can add some node.

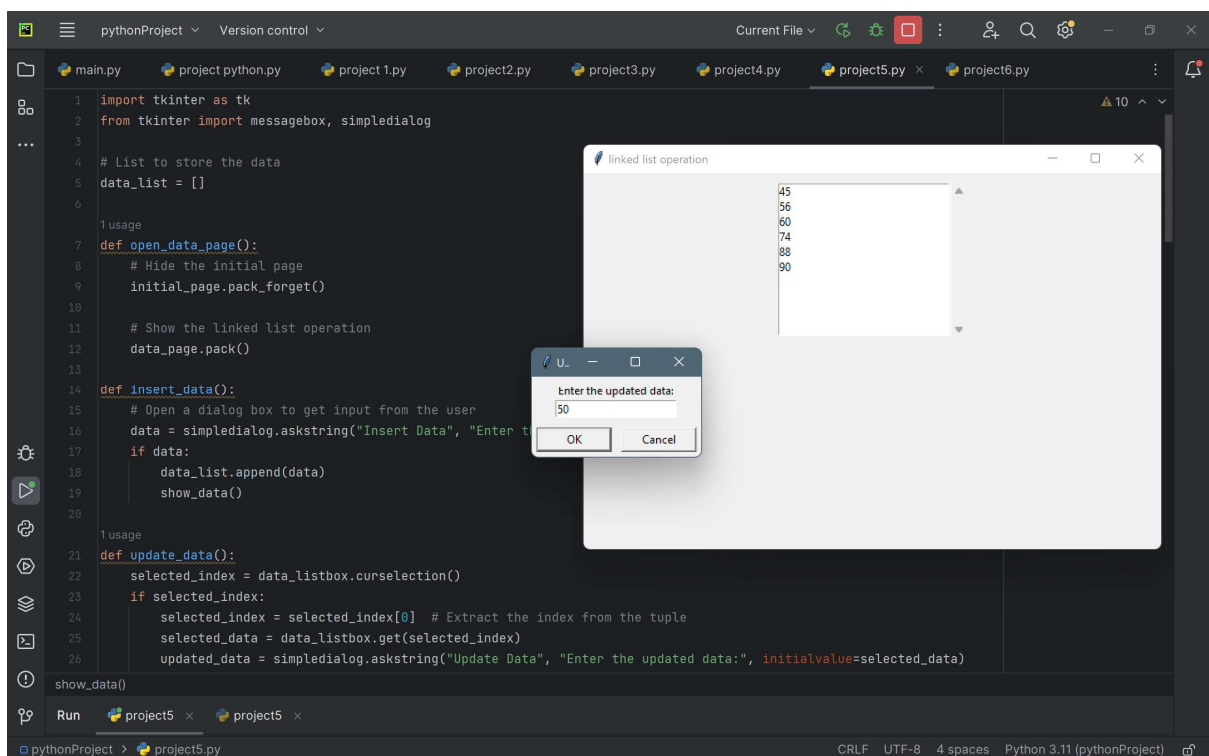


Here another value is added to the right.

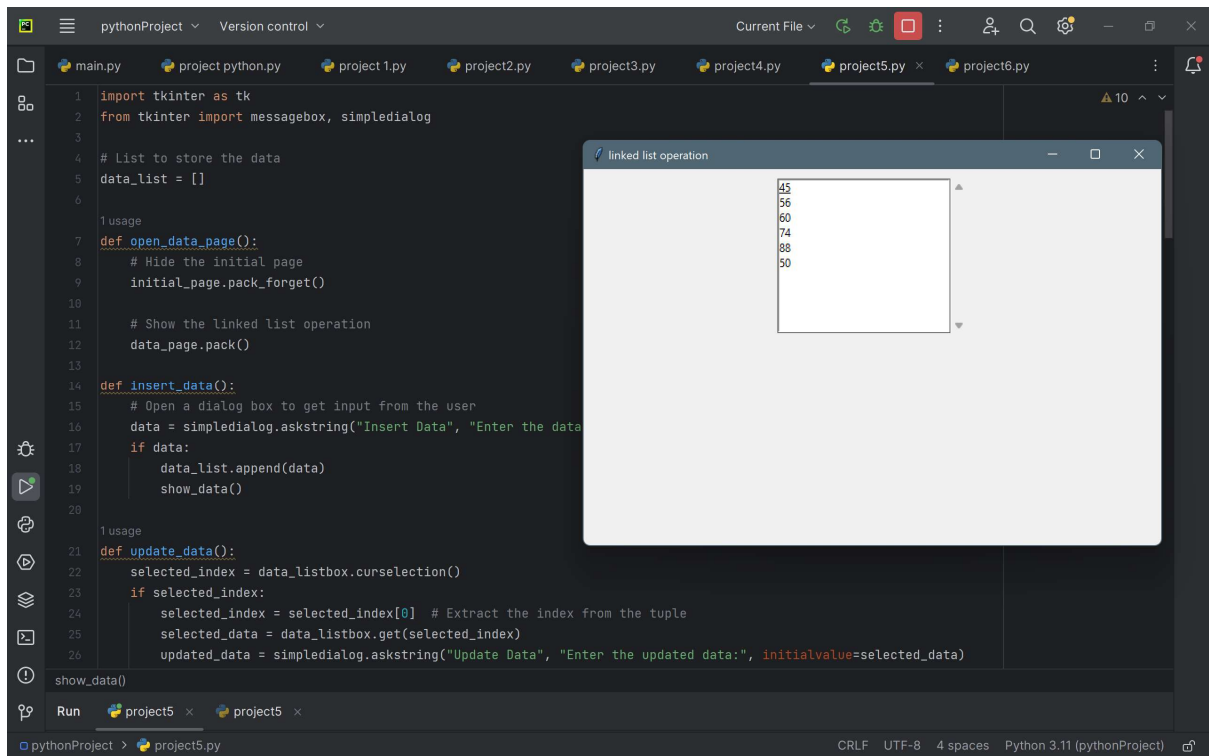
Moreover, we can get other functions by clicking on any number such as **"Update"**.



The clicked node can be updated to any other number.

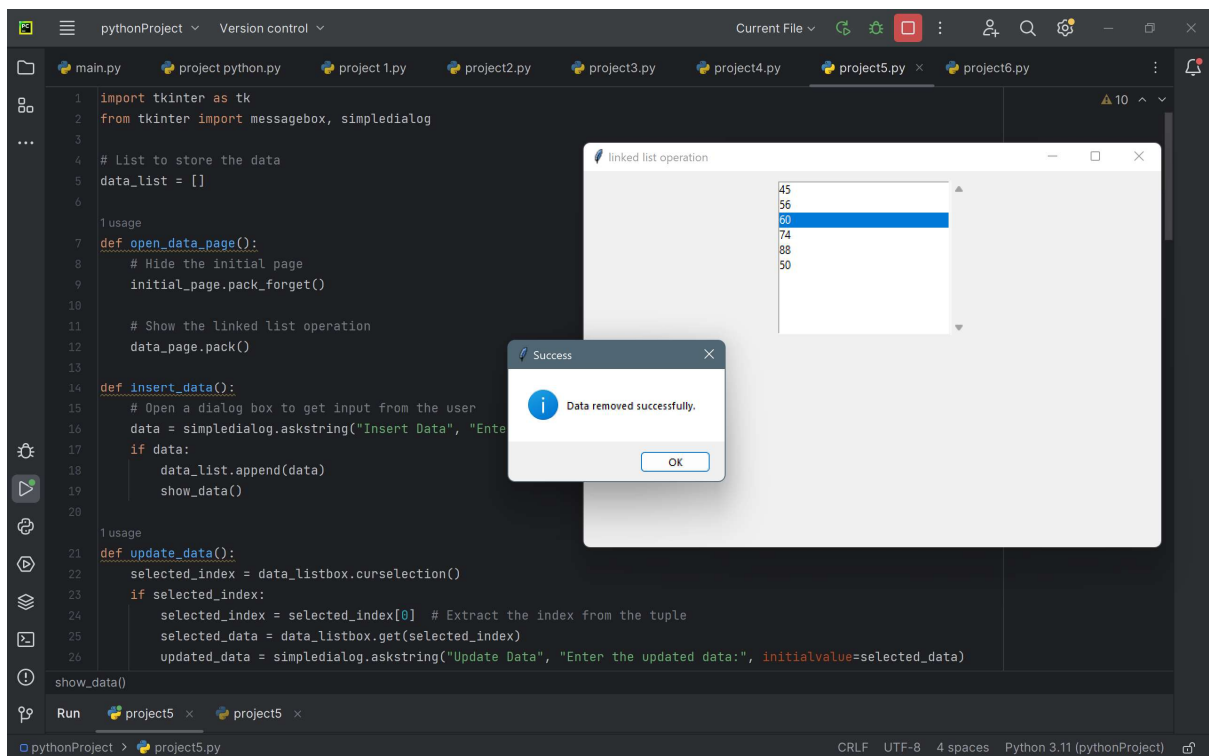
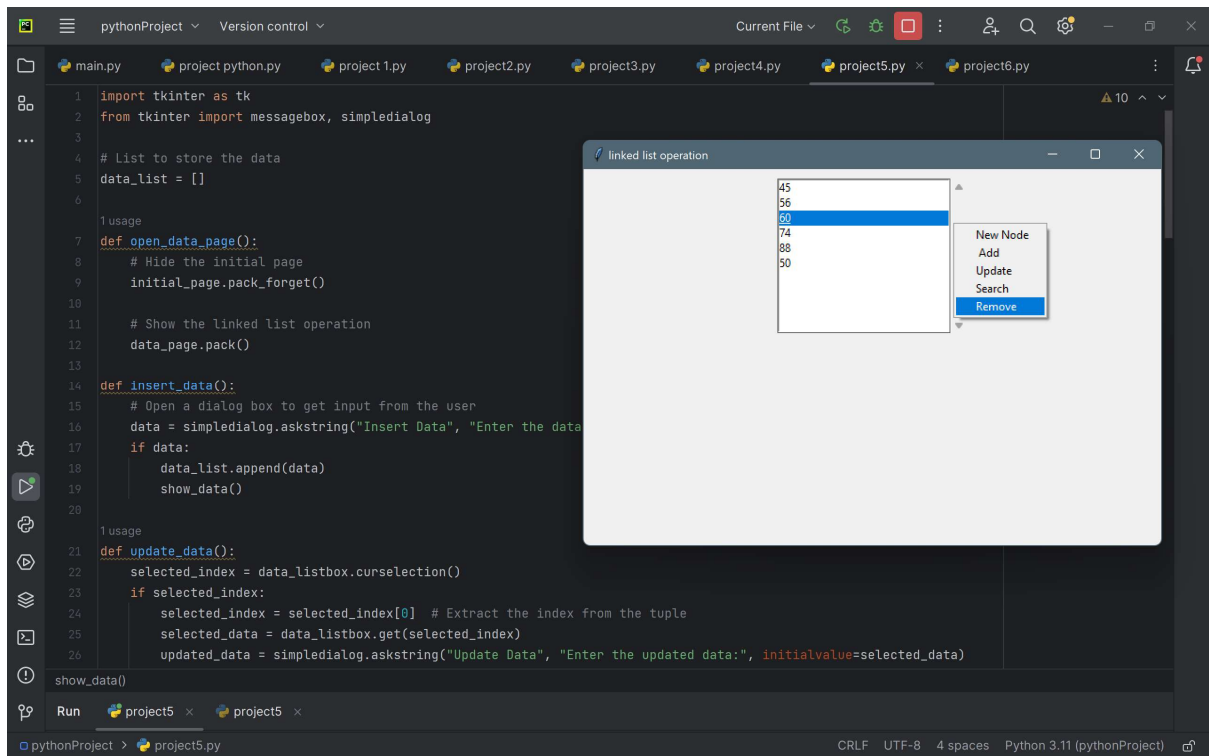


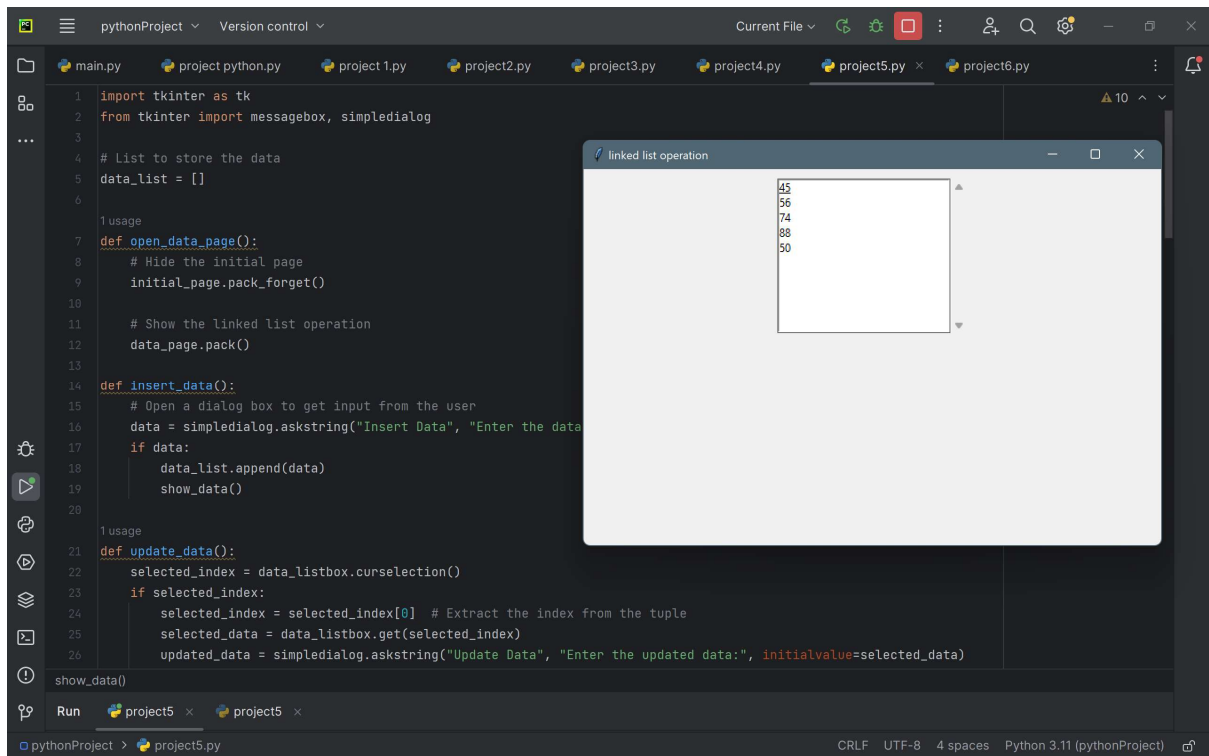




Here the number has been updated.

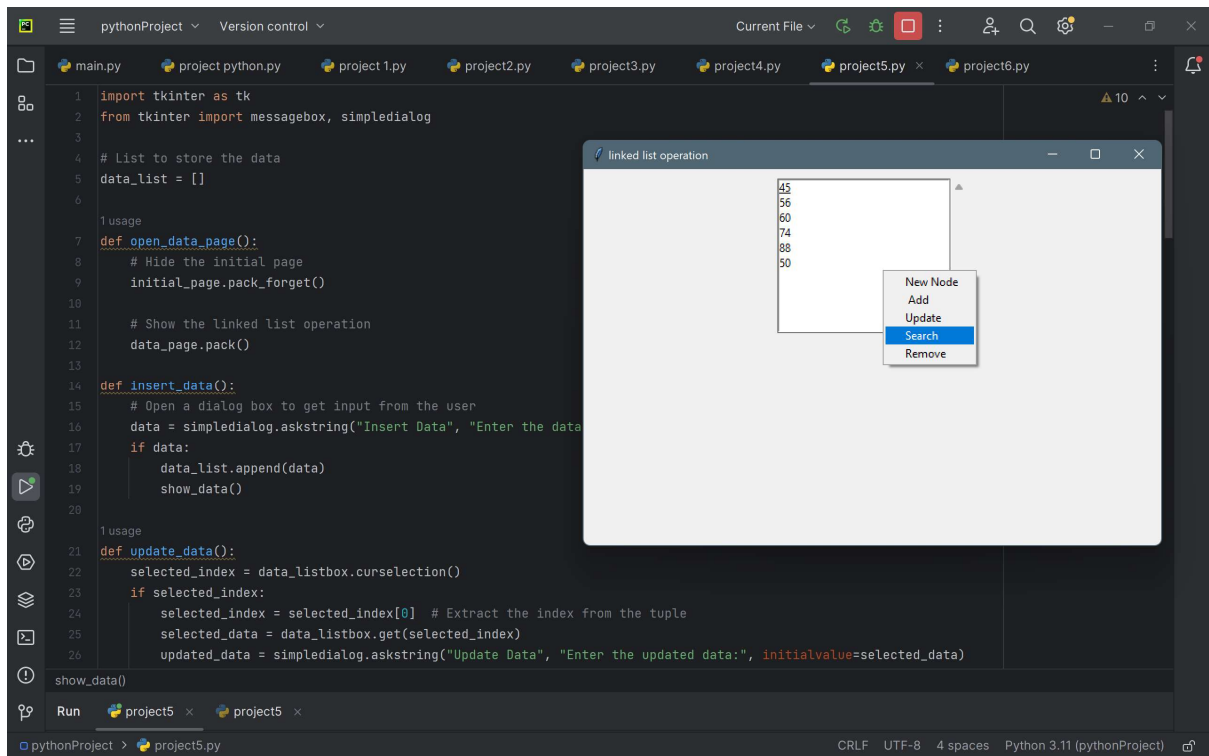
Then we can remove any node. Select the node and click by the option **"Remove"**.



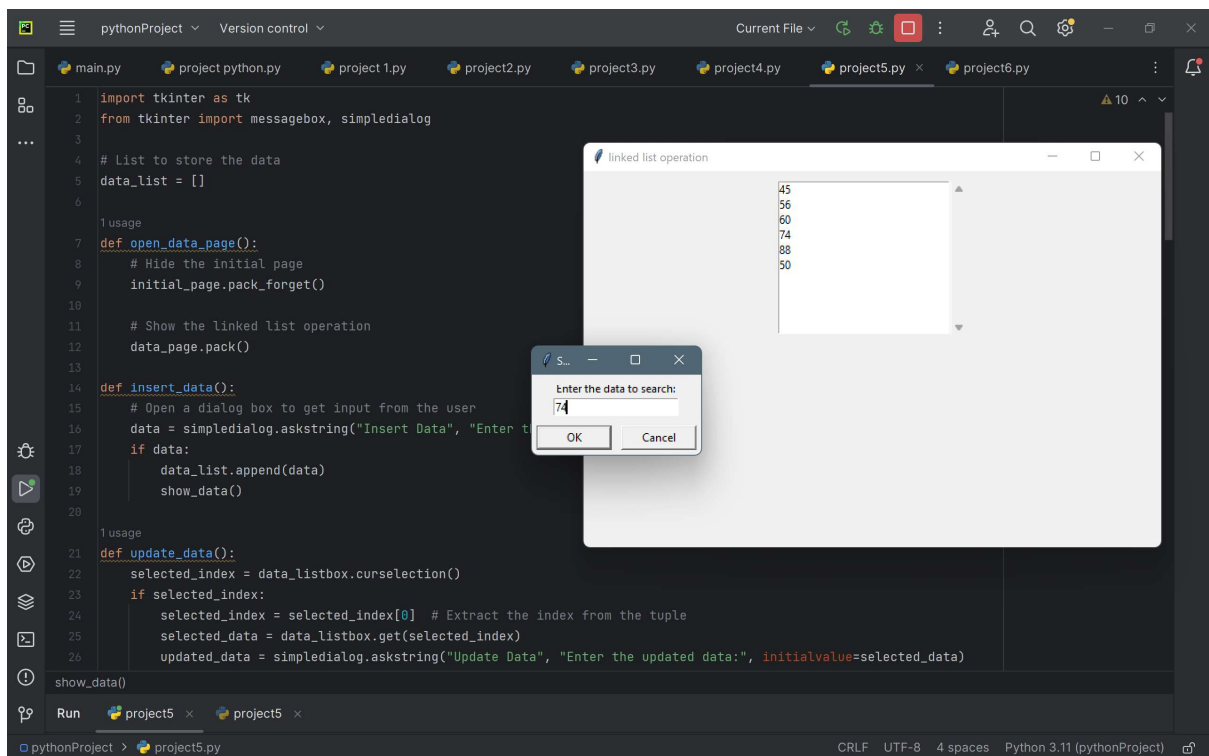


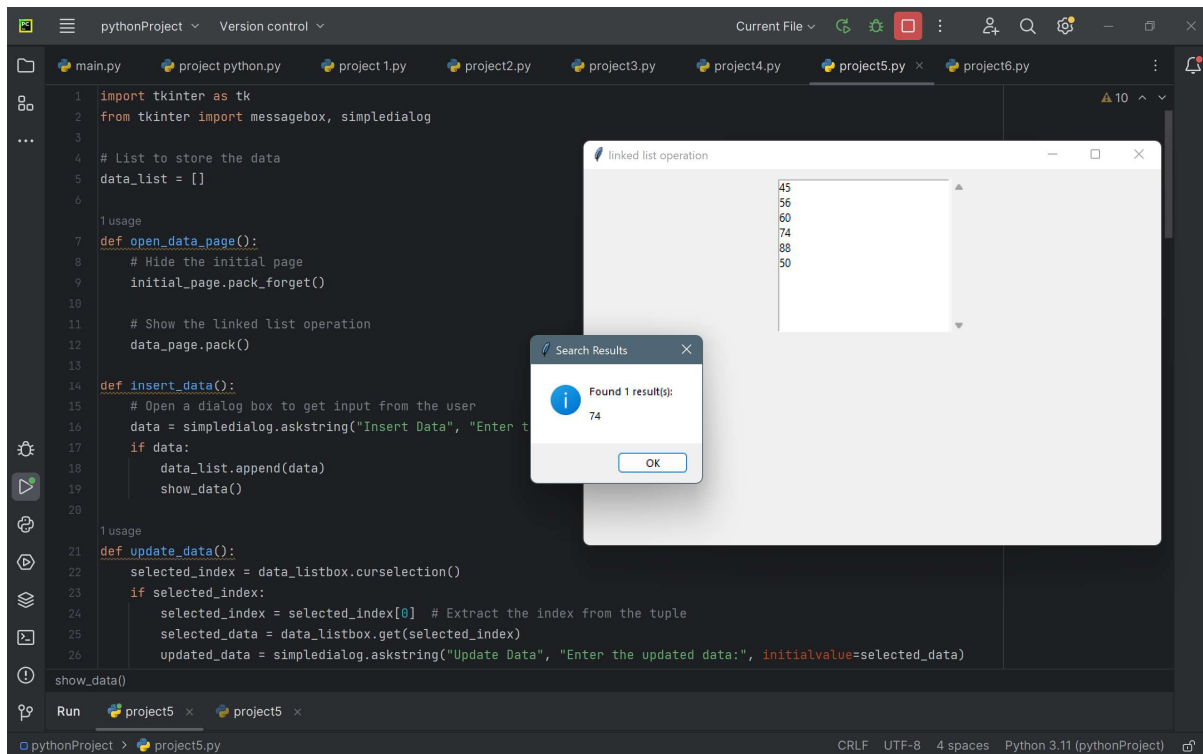
Here the value has been removed.

Here we can see an option "**Search**". We can find the numbers that has been displayed on the screen.



Enter the search node





## 4.Dependencies:

PyCharm Community Edition 2023.1.1 based on Python 3.11.2: For smart and intelligent Python development, including code assistance, refactorings, visual debugging, and version control integration.

Python Language: We implement this data structure project in Python Language.

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