Python Lists: Creation, Manipulation & UseAuthor: Madhu DadiTags: pythonSource: https://madhudadi.in/blog/pos

- The code demonstrates how Python assigns unique memory addresses to objects usingthe id() function, showing

between sequences- The result highlights the importance of element positioning when comparing liststructures[coc

- Positive indexing starts from 0, allowing access to elements directly, whilenegative indexing starts from -1, access

- A list L is initialized with five integer elements: 1, 2, 3, 4, and 5. - The append method is used to add the integer 6

appended list is nested within the original list.[code block]Output[code block]This code demonstrates how to extend

Output[code block]Understanding the TypeError when extending a list with an integer in PythonExplanation- The co

[code block]This code demonstrates how to insert an element into a specific position in a Pythonlist.Explanation- A

This code modifies the last element of a list and prints the updated list.Explanation- A list L is initialized with five int

- The code creates a list L with values [1,2,3,4,5] and prints it- The del statement is used to delete the entire list var

- The final output shows the list [1, 2, 5] after the deletion operation[code block]Output[code block]Example 20Expl

Output[code block]This code snippet demonstrates how to remove the last element from a list in Pythonusing the p

- Membership- LoopMerging two lists in Python using concatenationExplanation- The code defines two lists, L1 and

directly multiplied. - To achieve element-wise multiplication, one would typically use a library like NumPyor a list co

- The first for loop iterates through each element in L1, printing each integer from 1to 5. - The second for loop iterat

the number 1. - The count() method is called on the list L to determine how many times the integer 1appears, whicl

[code block]Output[code block]Understanding the difference between the sort() method and the sorted() function in

Output[code block]List ComprehensionList Comprehension provides a concise way of creating lists.newlist = [expr

Output[code block]Scalar multiplication of vectors using iterative multiplication and list appendingExplanation- The

[code block]Python list comprehension creates squared values from integer listExplanation- This code uses list com

Explanation- A list of programming languages is defined, containing various language names.- A list comprehensio

- Each matrix element at position (j,i) equals ji, creating multiplication tablepattern- The result is a list of lists repres

- The output will display each number on a new line, resulting in a sequential displayof the list elements.[code block

- It uses the zip function to pair elements from both lists index-wise. - A list comprehension iterates over the zipped

- The inclusion of functions in the list illustrates Python’s first-class functioncapability, allowing functions to be treat

- It creates a shallow copy of the list a into a new list b using the copy() method. - The original list a is printed, follow

Output[code block]Problem 2: Add new item to list after a specified itemWrite a program to add item 7000 after 600

[code block]This code pairs candy names with their respective quantities and prints them in aformatted manner.Ex

- Initializes a list list1 containing integers from 1 to 6. - Sets a variable sum to 0 to keep track of the cumulative tota

Output[code block]Problem 6: Find list of common unique items from two list. and show in increasingorderInput[coc

[code block]Python script to sort strings by the product of their numeric characters in descendingorderExplanation-

- The code initializes a list of strings containing phrases with spaces as delimiters- It iterates through each string in

[code block]Output[code block]Problem 10: Add Space between Potential Words.Example:Input:[code block]Outpu

Input:[code block]Output:[code block]Merging two lists into a unique union of elements in PythonExplanation- Initial

- A nested list L is defined containing three sublists, each with three integers. - An empty list result is initialized to s

[7,8,9]<br]<br[1, 4, 7]<br[2, 5, 8]<br[3, 6, 9]<brThis code transposes a 3x3 matrix by swapping its rows and column

- A 2D list named matrix is defined, containing three rows and three columns ofintegers. - The first nested loop itera