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BSCS3C

Lists

1. Defining a List

- A list is defined by enclosing elements in square brackets [], separated by commas.

2. List Syntax

- The syntax for a list is straightforward, with elements enclosed in [] and separated by commas.

3. Accessing List Elements

- Elements in a list can be accessed by their index, with the first element at index 0. Negative indices start from the end, with -1 being the last element.

4. Loop through a List

- You can loop through a list using a for loop to access each element.

5. List Length

- To find out how many items a list has, use the len() function.

6. Add Items in the List

- Items can be added to a list in several ways, like using the append() method to add an item to the end of the list. The insert() method allows you to add an item at a specified index and the extend() method adds all list elements to another list.

7. Remove Item from a List

- Items can be removed from a list using methods like remove(), pop(), and del. 'remove()' removes the first occurrence of x from the list. The 'pop()' removes the item at the given position in the list, and if no index is specified, it removes and returns the last item, and the 'del' can remove an item or slice from the list.

8. The List () Constructor

- A list can also be created using the list() constructor, typically used to convert other data types to lists.

9. List Methods

- Python provides many methods that allow you to manipulate lists. Some include append(), extend(), insert(), remove(), pop(), clear(), index(), count(), sort(), reverse(), and copy().

10. Nested Lists

- A list can contain other lists. This is called a nested list and can represent matrices or more complex data structures.