TOPS TECHNOLOGY

Python – Collections, functions and Modules

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List Operations

1.Common list operations: concatenation, repetition, membership.

- **Concatenation :**
- You can combine two or more lists into one using the + operator.
- Example :
- list1 = [1, 2, 3]
- list2 = [4, 5, 6]
- result = list1 + list2
- print(result)
- Output: [1, 2, 3, 4, 5, 6]

- **Repetition :**
- You can repeat a list multiple times using the * operator.
- # Example
- list1 = ["A", "B"]
- result = list1 * 3
- print(result)
- Output: ['A', 'B', 'A', 'B', 'A', 'B']
- **Membership :**
- You can check if an element is present in a list using the in and not in operators.
- Example :
- fruits = ["apple", "banana", "cherry"]
- print("apple" in fruits) # Output: True
- print("grape" not in fruits) # Output: True

2.Understanding list methods like append(), insert(), remove(), pop()

- **append() :**
- Adds a single element to the end of the list.
- Modifies the original list.
- Example
- fruits = ["apple", "banana"]
- fruits.append("cherry")
- print(fruits)
- Output: ['apple', 'banana', 'cherry']

- **insert() :**
- Inserts an element at a specific position (index).
- Takes two arguments: **index** (where to insert) and **element** (what to insert).
- # Example :
- fruits = ["apple", "banana"]
- fruits.insert(1, "cherry")
- print(fruits)
- Output: ['apple', 'cherry', 'banana']
- **remove() :**
- Removes the first occurrence of a specified value from the list.
- Raises a ValueError if the value is not found.

- Example :
- fruits = ["apple", "banana", "cherry", "banana"]
- fruits.remove("banana")
- print(fruits)
- Output: ['apple', 'cherry', 'banana']
- **pop() :**
- Removes and returns the element at the specified index.
- If no index is given, it removes and returns the **last element**.
- Raises an IndexError if the index is out of range.
- Example :
- fruits = ["apple", "banana", "cherry"]
- Print(fruits.pop(1))
- Output : ["apple","cherry"]