TOPS TECHNOLOGY

Python – Collections, functions and Modules

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Accessing List

1.Understanding how to create and access elements in a list.

- Creating a List:
- A list is created by Square Brackets [ ].
- Example :
- Fruits : ["Apple","Banana"]
- Accessing Elements:
- Indexing starts from 0 for the first element, 1 for the second, and so on.
- Negative indexing starts from -1 for the last element, -2 for the second last, etc.
- Example :
- Print(Fruits[0])
- Print(Fruits[-1])

2.Indexing in lists (positive and negative indexing).

- **Positive Indexing :**
- Positive indexing starts from **0** for the first element, **1** for the second, and so on.
- Use positive indexing to access elements from the **start** of the list.
- Example :
- animals = ["cat", "dog", "elephant", "fox", "rabbit"]
- print(animals[0]) # Output: cat
- print(animals[2]) # Output: elephant
- print(animals[4]) # Output: rabbit

- **Negative Indexing**
- Negative indexing starts from **-1** for the last element, **-2** for the second-to-last, and so on.
- Use negative indexing to access elements from the **end** of the list.
- Example :
- print(animals[-1]) # Output: rabbit (last element)
- print(animals[-3]) # Output: elephant (third-to-last element)
- print(animals[-5]) # Output: cat (first element)

3.Slicing a list: accessing a range of elements.

- Slicing a list allows you to access a **range of elements** by specifying a start, stop, and step.
- **Basic Syntax :**
- list[start:stop:step]
- **start**: The index where the slice begins (inclusive). Default is 0.
- **stop**: The index where the slice ends (exclusive).
- **step**: The interval between elements. Default is 1.
- **Accessing a Range of Elements**
- You can access a portion of the list by specifying start and stop
- # Example :
- numbers = [10, 20, 30, 40, 50, 60, 70]
- print(numbers[1:4]) # Output: [20, 30, 40]
- print(numbers[::2]) # Output: [10, 30, 50, 70]