11/4/24

Day-8

Lists

→ Ordered mutable collections
→ Can store mixed data types
int, str, float, bool, list.
→ defined using square brackets []

1. Creating a list in python.

```
num = [1, 2, 3, 4, 5]
fruits = ["apple", "banana", "cherry"]
print (fruits)
```

Accessing list elements → using indexing

```
print(fruits[0]) # o/p : apple.
```

→ negative indexing

```
print (fruits[-1]) # o/p : Cherry.
```

Adding Elements into a list.

→ append (x) - adds at end.
→ insert (index, x) → at position
→ extend ([x, y]) → adds multiple items

Updating Elements in a list.

using indexing to change value

```
fruits [1] = "mango"
print(fruits) # o/p: ['apple', 'mango', 'cherry']
```

Removing Elements from a list.

→ remove(value) – removes the 1st occurance of a value.

→ pop(index) – removes an item at a specific index.

→ del list[index] → deletes an element or entire list.

→ clear() → Empties the list.

Iterating over lists

→ using for loop to iterate

```
for fruits in fruits:
    print(fruit).
```

Nested list in python.

```
nested_list = [[1,2,3], ["apple", "Banana"], [True, False]]
print [nested_list[0][0]  # o/p: apple
```

Operations

Concatenation – join two list using +

List Repetition – repeat a list multiple times using *.

List slicing – Extract a portion of a list.

```
List [start:end]
print [fruits[1:3])
```

membership (in) – Checks if item exists in list.

```
Print ('apple' in fruits)  # o/p: True
```