Day-16 Date: 26/09/2025 __/__/____

— Data Structures

* Python data structure are way of organizing and storing data so that they can be accessed and modified efficiently

— Built-in data structure

1. List - [] ('indexed: access by position')
   Ordered, mutable (can change), allows duplicates
2. tuple - ()
   Ordered, immutable (cannot change after creation)
3. set - {}
   unordered, no duplicates
4. dictionary - {'key': 'value'}
   Store key value pairs

-① List - heterogenous data collector

details = ["aneena", "2002", 5.8, True, 2346, 4+8j]
details
#Created a list
o ['aneena', '2002', 5.8, True, 2346, (4+8j)]

to add element to last
details.append ("Data Analyst")
details

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- ['Aneena', '2002', 5.8, True, 2346, (4+8j), 'Data analyst']

```
#To change True to False
details[3] = False
```

- ['aneena', '2002', 5.8, False, 2346, (4+8j), 'Data Analyst']

```
#To delete element
details.pop()  # pop(3) / pop(2) any position
details
```

```
#To print one be one
for i in details:
    print(i)
```

- aneena
  2002
  5.8
  False

```
#To print with position
for i in enumerate(details):
    print(i)
```

- (0, 'aneena')
  (1, '2002')
  (2, 5.8)

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# To replace element
details[1] = 23
details
o ['aneena', 23, 5.8, False]

# To add element without replacing
details.insert(2, "2000")
details
o ['aneena', 23, 2000, 5.8, False]

# To remove specific element
details.pop(3)
details.
details.remove("aneena")
details

# length of list
len(details)

# count of elements
details.count(5.8)

# clear elements
details.clear()
details

delete list
del details

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– l1 = [5,2,9,7,1]

Create l2 by square number of l1

```
l1 = [5,2,9,7,1]
l2 = [ ]
for i in l1:
    s = i * i
    l2.append(s)
l2
```

○ [25,4,81,49,1]