**Tuples**

Definition: Ordered, immutable list of elements.

Syntax: my\_tuple = (1, 2, 3)

Key Features:

* Can be indexed and sliced (my\_tuple[0] → 1).
* Immutable and cannot be modified.
* Faster than lists since they are fixed size.
* Fix data lists can be used with them (e.g., coordinates, database records).

Common Methods: count(), index()

**Lists**

Definition: Ordered, mutable list of elements.

Syntax: my\_list = [1, 2, 3]

Key Features:

* Modifiable (addition, removal, updation of elements).
* Supporting indexing and slicing (my\_list[1] → 2).
* For dynamic data storage.

Common Methods: append(), extend(), insert(), remove(), pop(), sort(), reverse(), count(), index()

**Sets**

Definition: An unordered collection of distinct elements.

Syntax: my\_set = {1, 2, 3}

Key Features:

* No duplicate elements.
* Does not support indexing.
* Efficient operations such as union, intersection, and difference.

Common Methods: add(), remove(), discard(), pop(), clear(), union(), intersection(), difference()

**Dictionaries**

Definition: A set of key-value pairs.

Syntax: my\_dict = {'name': 'Alice', 'age': 25}

Key Features:

* Keys must be unique and immutable.
* Supports fast lookups and updates.
* Good for holding structured data.

Common Operations: get(), pop(), update(), keys(), values(), items(), clear()