## **Comprehensive List of Tuple Functions and Methods**

#### Creation

- tuple(): Creates an empty tuple or converts another iterable into a tuple.
- (): The empty parentheses create an empty tuple.
- (item,): Creates a tuple with a single item.

### **Manipulations**

- tuple.count(item): Returns the number of occurrences of item in the tuple.
- tuple.index(item[, start[, end]]): Returns the index of the first occurrence of item in the tuple.
- tuple + another tuple: Concatenates two tuples.
- tuple \* n: Creates a new tuple with n copies of the original tuple.
- len(tuple): Returns the number of items in the tuple.
- min(tuple): Returns the smallest item in the tuple.
- max(tuple): Returns the largest item in the tuple.
- sorted(tuple): Returns a sorted list of the tuple's elements.

#### **Accessing Elements**

- tuple[i]: Returns the item at index i.
- tuple[start:end]: Returns a slice of the tuple from index start to end-1.
- tuple[start:end:step]: Returns a slice of the tuple from index start to end-1 with a step of step.

#### Iteration

- for item in tuple:: Iterates over each item in the tuple.
- enumerate(tuple): Returns an enumerate object, yielding pairs of an index and an element from the tuple.

## **Membership Test**

- item in tuple: Returns True if item is present in the tuple, otherwise False.
- item not in tuple: Returns True if item is not present in the tuple, otherwise False.

## Conversion

- tuple(seq): Converts seq (a sequence) into a tuple.
- str(tuple): Converts the tuple into a string representation.

# **Built-in Functions**

- sum(tuple): Returns the sum of all items in the tuple (items must be numbers).
- all(tuple): Returns True if all items in the tuple are True.
- any(tuple): Returns True if any item in the tuple is True.