**Here’s a Python Data Structure Operations Cheat Sheet — quick and handy for lists, tuples, sets, dictionaries, and strings.**

**1. Lists (Mutable, Ordered, Allows Duplicates)**

**python**

**CopyEdit**

**# Create**

**my\_list = [1, 2, 3, 4]**

**# Access**

**my\_list[0] # First element**

**my\_list[-1] # Last element**

**my\_list[1:3] # Slicing**

**# Update**

**my\_list[1] = 99**

**# Add**

**my\_list.append(5)**

**my\_list.insert(2, 50)**

**my\_list.extend([6, 7])**

**# Remove**

**my\_list.remove(99) # Removes first match**

**my\_list.pop() # Removes last**

**my\_list.pop(2) # Removes at index**

**my\_list.clear()**

**# Search & Count**

**my\_list.index(3) # First index of value**

**my\_list.count(2) # Count occurrences**

**# Sort & Reverse**

**my\_list.sort() # Ascending**

**my\_list.sort(reverse=True)**

**my\_list.reverse()**

**# Copy**

**copy\_list = my\_list.copy()**

**2. Tuples (Immutable, Ordered, Allows Duplicates)**

**python**

**CopyEdit**

**# Create**

**my\_tuple = (1, 2, 3)**

**# Access**

**my\_tuple[0]**

**my\_tuple[-1]**

**my\_tuple[1:3]**

**# Count & Index**

**my\_tuple.count(2)**

**my\_tuple.index(3)**

**3. Sets (Mutable, Unordered, No Duplicates)**

**python**

**CopyEdit**

**# Create**

**my\_set = {1, 2, 3}**

**set\_from\_list = set([1, 2, 3, 1])**

**# Add & Remove**

**my\_set.add(4)**

**my\_set.remove(2) # Error if not found**

**my\_set.discard(5) # No error if missing**

**my\_set.pop() # Random remove**

**my\_set.clear()**

**# Set Operations**

**a = {1, 2, 3}**

**b = {3, 4, 5}**

**a | b # Union**

**a & b # Intersection**

**a - b # Difference**

**a ^ b # Symmetric Difference**

**# Membership**

**2 in a**

**4. Dictionaries (Mutable, Key-Value Pairs, Keys Unique)**

**python**

**CopyEdit**

**# Create**

**my\_dict = {"name": "Alice", "age": 25}**

**# Access**

**my\_dict["name"]**

**my\_dict.get("age", "Not Found")**

**# Add/Update**

**my\_dict["city"] = "Paris"**

**my\_dict.update({"age": 26})**

**# Remove**

**my\_dict.pop("city")**

**my\_dict.popitem() # Removes last inserted**

**del my\_dict["name"]**

**my\_dict.clear()**

**# Keys, Values, Items**

**my\_dict.keys()**

**my\_dict.values()**

**my\_dict.items()**

**# Membership**

**"name" in my\_dict**

**5. Strings (Immutable, Ordered)**

**python**

**CopyEdit**

**# Create**

**text = "Hello World"**

**# Access**

**text[0]**

**text[-1]**

**text[0:5]**

**# Modify (via new strings)**

**text.upper()**

**text.lower()**

**text.title()**

**text.strip()**

**text.replace("World", "Python")**

**text.split() # To list**

**",".join(["A", "B"]) # From list**

**# Search**

**text.find("World") # -1 if not found**

**text.index("World") # Error if not found**

**text.count("l")**