Cheatsheet 03: Lists and Dictionaries

Lists

Creating a list

```
my_list = [1, 2, 3, 4, 5]
```

Accessing elements

```
first_elem = my_list[0]
last_elem = my_list[-1]
```

Slicing

```
sub_list = my_list[1:4]  # Returns [2, 3, 4]
```

Length of a list

```
len(my_list)
```

Adding elements

```
my_list.append(6)
my_list.extend([7, 8, 9])
```

Inserting elements

```
my_list.insert(0, 0)  # Inserts 0 at index 0
```

Removing elements

```
my_list.remove(1)  # Removes the first occurrence of 1
item = my_list.pop(1)  # Removes and returns the element at index 1
```

Sorting

```
my_list.sort()  # Sorts in ascending order
my_list.sort(reverse=True)  # Sorts in descending order
```

Reversing

```
my_list.reverse()
```

List comprehensions

```
squares = [x**2 for x in range(1, 6)]  # Returns [1, 4, 9, 16, 25]
```

Dictionaries

Creating a dictionary

```
my_dict = {"key1": "value1", "key2": "value2", "key3": "value3"}
```

Accessing elements

```
value = my_dict["key1"]
```

Accessing elements with `get`

```
value = my_dict.get("key1")  # Returns None if key doesn't exist
```

Adding or updating elements

```
my_dict["key4"] = "value4"
my_dict["key1"] = "new_value1"
```

Deleting elements

```
del my_dict["key1"]
```

Checking if a key exists

```
if "key1" in my_dict:
    print("Key exists")
```

Length of a dictionary

```
len(my_dict)
```

List of keys

```
keys = list(my_dict.keys())
```

List of values

```
values = list(my_dict.values())
```

List of key-value pairs (items)

```
items = list(my_dict.items())
```

Dictionary comprehensions

```
squares = {x: x**2 for x in range(1, 6)}  # Returns {1: 1, 2: 4, 3: 9, 4: 16, 5: 25}
```

Remember to replace `my_list` and `my_dict` with your own list or dictionary variable names.