

### Practice codes on dictionaries:

Create and print a dictionary:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
print(thisdict)
```

Get the value of the "model" key:

```
x = thisdict["model"]
```

or;

```
x = thisdict.get("model")
```

Change value of the "year" to 2018:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
thisdict["year"] = 2018
```

Loop through dictionary:

Print all key names in the dictionary, one by one:

```
for x in thisdict:  
    print(x)
```

Print all *values* in the dictionary, one by one:

```
for x in thisdict:  
    print(thisdict[x])
```

or,

You can also use the `values()` function to return values of a dictionary:

```
for x in thisdict.values():  
    print(x)
```

Loop through both *keys* and *values*, by using the `items()` function:

```
for x, y in thisdict.items():  
    print(x, y)
```

Check if "model" is present in the dictionary:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
if "model" in thisdict:  
    print("Yes, 'model' is one of the keys in the thisdict dictionary")
```

Dictionary length (Print the number of items in the dictionary):

```
print(len(thisdict))
```

Adding an item to the dictionary is done by using a new index key and assigning a value to it:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
thisdict["color"] = "red"  
print(thisdict)
```

The `pop()` method removes the item with the specified key name:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
thisdict.pop("model")  
print(thisdict)
```

The `popitem()` method removes the last inserted item (in versions before 3.7, a random item is removed instead):

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
thisdict.popitem()  
print(thisdict)
```

The `del` keyword removes the item with the specified key name:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
del thisdict["model"]  
print(thisdict)
```

The `clear()` keyword empties the dictionary:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
thisdict.clear()  
print(thisdict)
```

### Practice codes on Sets:

Create a Set:

```
thisset = {"apple", "banana", "cherry"}  
print(thisset)
```

Loop through the set, and print the values:

```
thisset = {"apple", "banana", "cherry"}  
  
for x in thisset:  
    print(x)
```

Check if "banana" is present in the set:

```
thisset = {"apple", "banana", "cherry"}  
  
print("banana" in thisset)
```

\*To add one item to a set use the `add()` method.

\*To add more than one item to a set use the `update()` method.

Add an item to a set, using the `add()` method:

```
thisset = {"apple", "banana", "cherry"}  
  
thisset.add("orange")  
  
print(thisset)
```

Add multiple items to a set, using the `update()` method:

```
thisset = {"apple", "banana", "cherry"}  
  
thisset.update(["orange", "mango", "grapes"])  
  
print(thisset)
```

\*determine how many items a set have, use the `len()` method.

Get the number of items in a set:

```
thisset = {"apple", "banana", "cherry"}  
  
print(len(thisset))
```

Remove "banana" by using the `remove()` method:

```
thisset = {"apple", "banana", "cherry"}  
  
thisset.remove("banana")  
  
print(thisset)
```

Remove "banana" by using the `discard()` method:

```
thisset = {"apple", "banana", "cherry"}  
  
thisset.discard("banana")  
  
print(thisset)
```

Remove the last item by using the `pop()` method:

```
thisset = {"apple", "banana", "cherry"}  
x = thisset.pop()  
print(x)  
print(thisset)
```

The `clear()` method empties the set:

```
thisset = {"apple", "banana", "cherry"}  
thisset.clear()  
print(thisset)
```

The `del` keyword will delete the set completely:

```
thisset = {"apple", "banana", "cherry"}  
del thisset  
print(thisset)
```

It is also possible to use the `set()` constructor to make a set.

Using the `set()` constructor to make a set:

```
thisset = set(("apple", "banana", "cherry")) # note the double round-  
brackets  
print(thisset)
```