

# Session 10

## Dictionary





# Dictionary in Python



# What is a “Dictionary”?

- Like a dictionary in real life which has words and meanings, dictionary in Python contains pairs of keys and values
- Each key has a value, key can't be duplicate
- Access the value through the key

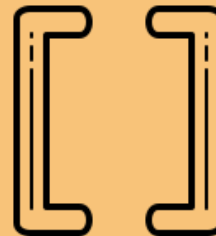
```
car = {  
    "brand": "Toyota",  
    "year": 2010,  
    "price": 400.45,  
    "colors": ["grey", "red", "blue"]  
}
```

# Access, add and update a key-value pair

Access the value in the dictionary with **dict[key]**

To add a new key-value pair, use the syntax **dict[key] = value**

If the key-value is already exist, update the value with the syntax **dict[key] = new\_value**



# Common dictionary operations



**del dict[key]**  
**dict.pop(key)**

Delete a key-value pair



**len(dict)**

Get the items size



**dict.clear()**

Clear the whole  
dictionary



**key in dict**

Check if key exists



**dict.copy()**

Copy a dictionary

# Iterate through the dictionary



**for key in dict:**

Loop through all the keys



**for key in dict:**  
**dict[key]**  
**for value in dict.values():**

Loop through all the  
values



**For (key, value) in dict.items():**

Check if item exists in a  
list

# Some note about mutability vs immutability

The *value* can be of any type:  
int, string, list, set,... Even  
another dictionary

In order to keep the *key* unique,  
Python has to hash it, therefore  
only **immutable** data type can  
be used as key



# THANKS!

See you in the next lesson!

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