

# dictionaries

Dictionaries are data structures that store information in key:value pairs. They are especially useful for saving and retrieving information from the names of their keys (not using indexes).

mutable ✓

ordered ✗ \*

allow  
duplicates ✗ : ✓  
value ↖  
key ↘

```
mi_dict = {"course": "TOTAL Python", "class": "Dictionaries"}
```

add new data, or modify it

```
mi_dict["resources"] = ["notes", "exercises"]
```

access to values through the name of the keys

```
print(mi_dict["resources"][1])  
>> "exercises"
```

methods to list the names of keys, values, and key:value pairs

keys() ←      ↓      ↘  
values()      items()

*\*: As of Python 3.7+, dictionaries are ordered data types, in the way that their order is maintained according to their insertion order to increase memory efficiency.*