

Python Dictionaries Cheatsheet

Context

For the purposes of this tutorial, we will imagine that 5 students took a test and we will use a dictionary to store their marks.

Creating and displaying dictionaries

Create a dictionary:

```
student_marks = {"Sara": 99, "Aneesa": 68, "Emmanuel": 72, "Tom": 50, "Candice": 72}
```

Display the dictionary:

```
print(student_marks)
# output:
{"Sara": 99, "Aneesa": 68, "Emmanuel": 72, "Tom": 50, "Candice": 72}
```

Tip: you can make dictionaries out of everything!

```
random_dictionary = {9: "hello", "seven": true, 10.5: ["one", 19, false]}
```

Accessing keys and values within the dictionary

Get a value from its key:

```
student_marks.get("Aneesa")
# output:
68
```

View all keys in the dictionary:

```
student_marks.keys()
# output:
dict_keys(['Sara', 'Aneesa', 'Emmanuel', 'Tom', 'Candice'])
```

View all values in the dictionary:

```
student_marks.values()
# output:
dict_values([99, 68, 72, 50, 72])
```

Get a list of all values in the dictionary:

```
list(student_marks.values())
# output:
[99, 68, 72, 50, 72]
```

Adding items to a dictionary

Add a single key/value pair to the dictionary:

```
student_marks["Paxton"] = 76
print(student_marks)
# output:
{'Sara': 99, 'Aneesa': 68, 'Emmanuel': 72, 'Tom': 50, 'Candice': 72, 'Paxton': 76}
```

Add multiple key/value pairs to the dictionary:

```
student_marks.update({"Devi": 80, "Fabiola": 55})
print(student_marks)
# output:
{'Sara': 99, 'Aneesa': 68, 'Emmanuel': 72, 'Tom': 50, 'Candice': 72, 'Paxton': 76, 'Devi': 80, 'Fabiola': 55}
```

Removing items from a dictionary

Pop (remove and store as a variable) a key/value pair from the dictionary:

```
aneesa_mark = student_marks.pop("Aneesa")
print(aneesa_mark)
# output:
68
```

Delete a key/value pair from the dictionary:

```
del student_marks["Sara"]
print(student_marks)
# output:
{'Emmanuel': 72, 'Tom': 50, 'Candice': 72, 'Paxton': 76, 'Devi': 80, 'Fabiola': 55}
```

Clear the whole dictionary (delete all key/value pairs):

```
student_marks.clear()
print(student_marks)
# output:
{}
```

Useful Dictionary operations

Get the length of the dictionary:

```
len(student_marks)
# output:
5
```

Create a new variable using `list()` to store the marks:

```
marks_only = list(student_marks.values())
print(marks_only)
# output:
[99, 68, 72, 50, 72]
```

You can now use all the list operations on it!