CL07 - Dictionaries

Dictionaries

Flavor	Num Orders
“chocolate”	12
“vanilla”	8
“strawberry”	5

Dictionaries

Keys

Values

Flavor	Num Orders
“chocolate”	12
“vanilla”	8
“strawberry”	5

Lists

Indexes

Values

0	12
1	8
2	5

Also called: Map, Hashmap, Key-Value Store

Syntax

Data type:

```
name: dict[<key type>, <value type>]
temps: dict[str, float]
```

Construct an empty dict:

```
dict() or {}
```

Construct a populated dict:

```
temps: dict[str, float] = {“Florida”: 72.5, “Raleigh”: 56.0}
```

Do it yourself!

Create a dictionary called ice_cream that stores the following orders

Keys	Values
chocolate	12
vanilla	8
strawberry	5

Adding elements

We use subscription notation.

<dict name>[<key>] = <value>

temps[“DC”] = 52.1

Do it yourself!

Add 3 orders of “mint” to your ice_cream dictionary.

Removing elements

Similar to lists, we use pop()

<dict name>.pop(<key>)

temps.pop(“Florida”)

Do it yourself!

Remove the orders of “mint” from ice_cream.

Access + Modify

To access a value,
use subscription notation:

```
<dict name>[<key>]
temps[“DC”]
```

To modify, also use subscription notation:

```
<dict name>[<key>] = new_value
temps[“DC”] = 53.1  or  temps[“DC”] += 1
```

Do it yourself!

Print out how many orders there are of “chocolate”.
Update the number of orders of Vanilla to 10.

Length of dictionary

len(<dict name>)

len(temps)

Do it yourself!

Print out the length of ice_cream.

What exactly is this telling you?

Check if key in dictionary

<key> in <dict name>

“DC” in temps

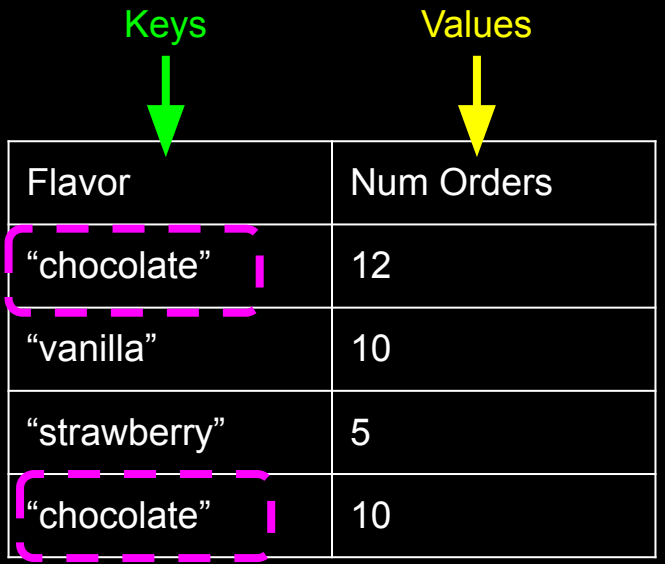
“Florida” in temps

Do it yourself!

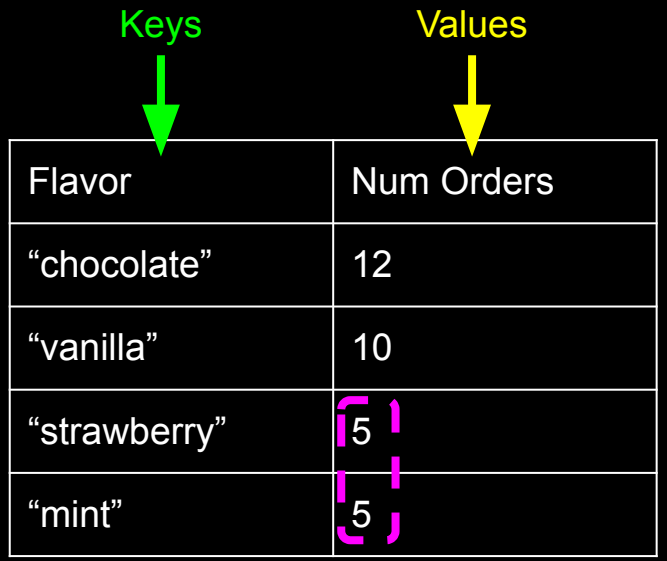
Check if both the flavors “mint” and “chocolate” are in ice_cream.

Write a conditional that behaves the following way:
If “mint” is in ice_cream, print out how many orders of “mint” there are.
If it’s not, print “no orders of mint”.

Important Note: Can't Have Multiple of Same ***Key***



(Duplicate *values* are okay.)



“for” Loops

“for” loops iterate over the *keys* by default

```
for key in ice_cream:
    print(key)
```

```
for key in ice_cream:
    print(ice_cream[key])
```

Flavor	Num Orders
“chocolate”	12
“vanilla”	10
“strawberry”	5

Do it yourself!

Use a for loop to print:
chocolate has 12 orders.
vanilla has 10 orders.
strawberry has 5 orders.

Dicts in Memory

```
1   jerseys: dict[int, str] = {1: "Alyssa", 2: "Shefali"}
2   for number in jerseys:
3       print(jerseys[number])
```

To do:

LS17 - Due today!

CQ05 - Due *Friday.*

Instructions on Site

(Feel free to raise your hand with questions!)