

Python Collections: Lists and Dictionaries

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COLLECTIONS

Grades dictionary	
keys	values
John	A
Emily	A+
Betty	B
Mike	C
Ashley	A

Grades list	
index	values
0	A
1	A+
2	B
3	C
4	A

lists, `list` and dictionaries, `dict`, are used to store **collections** of data.
both can be used to store **multi-dimensional** data.

LISTS

Remember the **Pannang Curry 1-2-3!**

1. Open your right refrigerator door and remove ingredients from the following locations: Door shelf 2. Spot 1; Crisper drawer 1, Spot 3; Crisper drawer 1, Spot 5.

```
1 crisper_drawer = ['pepper', 'zucchini', 'onion']  
2  
3 fridge = [['pepper', 'zucchini', 'onion'],  
4           ['cabbage', 'lettuce', 'garlic'],  
5           ['apple', 'pear', 'banana']]
```

The **list** is an ordered collection that allow you to store multiple items in a specific sequence

DICTIONARIES

With the container data structures, we can begin to model **complex relational real-world objects!**

```
1 crisper_drawer = {'pepper': 3, 'zucchini': 1, 'onion': 5}
2
3 fridge = { 'crisper_1': {'chili': 2, 'garlic': 3, 'onion': 5},
4           'crisper_2': {'cabbage': 2, 'lettuce': 1, 'peper': 3},
5           'door': {
6               'shelf_1': {'yeast': 1, 'eggs': 5},
7               'shelf_2': {'milk': 2, 'yogurt': 1},
8               'shelf_3': {'water': 3}
9           }
10        }
```

The **dictionary** is an **unordered*** collection that allow you to store items as **key:value** pairs.

HASH TABLE

Dictionaries is Python's builtin implementation of **hash tables**, that is, an unordered collection of key-value pairs, where each key is unique.

- used to implement map and set data structures in most common programming languages.
- offer a combination of efficient lookup, insert and delete operations.
- neither arrays nor linked lists can achieve this

```
1 if questions:
2     try:
3         answer()
4     except RuntimeError:
5         pass
6     else:
7         print('break')
```