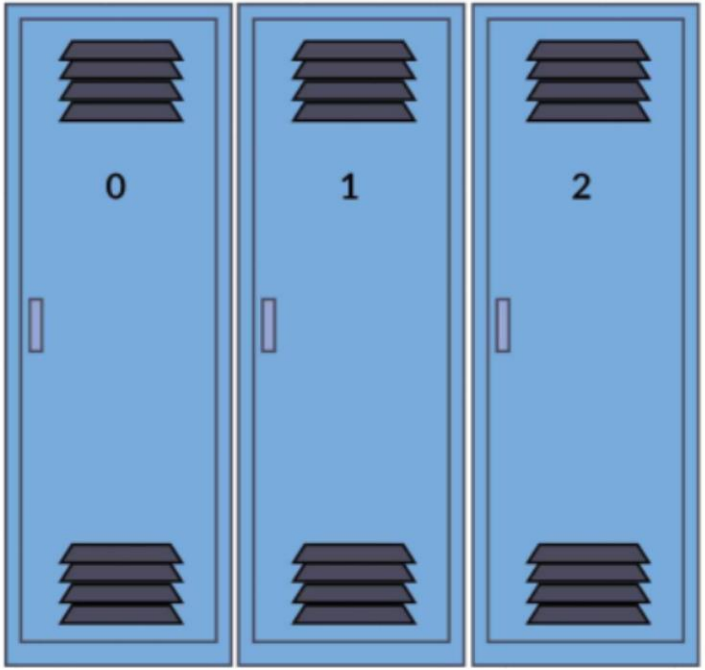
Class 13

Week 7

Why Dictionaries?

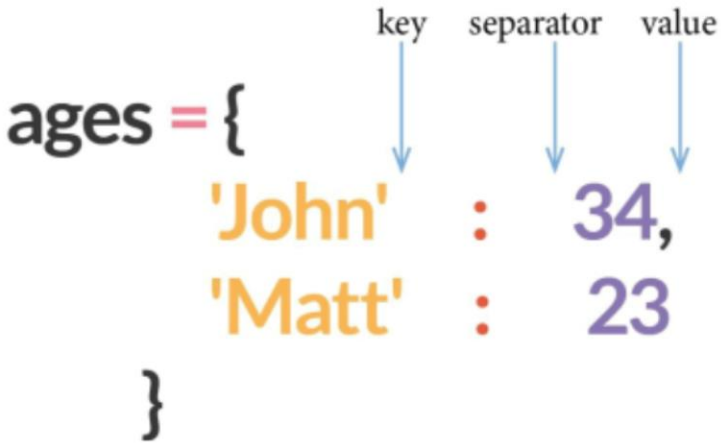
Lists and tuples use integers for indexing.



Dictionaries use keys for indexing.

Dictionaries

Lets create a dictionary with people names as keys and their ages as values:



Why Dictionaries?

Lists are good when you're putting together a simple series of things—tasks
to do, cooking ingredients, the names of environmentally clean cities.

But sometimes you want to put together something more complicated. For example:
Customer 29876's first name: David
Customer 29876's last name: Elliott
Customer 29876's address: 4803 Wellesley St.
Customer 29876's city: Toronto

KEY VALUE PAIR

A dictionary works something like a list, but instead of a simple series of things, a dictionary is a series of pairs of things. Each pair contains a

key—"first name", "last name"

value—"David" , "Elliott"

KEY VALUE PAIR

In other words, if the key is "first name," for example, what is the value? Answer: "David."

```
customer_29876 = {"first name": "David", "last name": "Elliott", "address": "4803 Wellesley St."}
```

How to get value

pick out an element by specifying its key

```
address_of_customer = customer_29876["address"]
```

Readability

```
1 things_to_remember = {
2   0: "the lowest number",
3   "a dozen": 12,
4   "snake eyes": "a pair of ones",
5   13: "a baker's dozen",
6 }
```

When you're defining a dictionary that contains more than two or three key-value pairs, it's a good idea to break the pairs into separate lines for readability:

ADD MORE

You can add a new pair by writing...

```
customer_29876["city"] = "Toronto"
```

Looping Through Values

```
1 for each_value in customer_29876.values():
2   print(each_value)
```

Looping Through Values

```
1 for each_value in customer_29876.values():
2   print(each_value)
```

Looping Through Keys

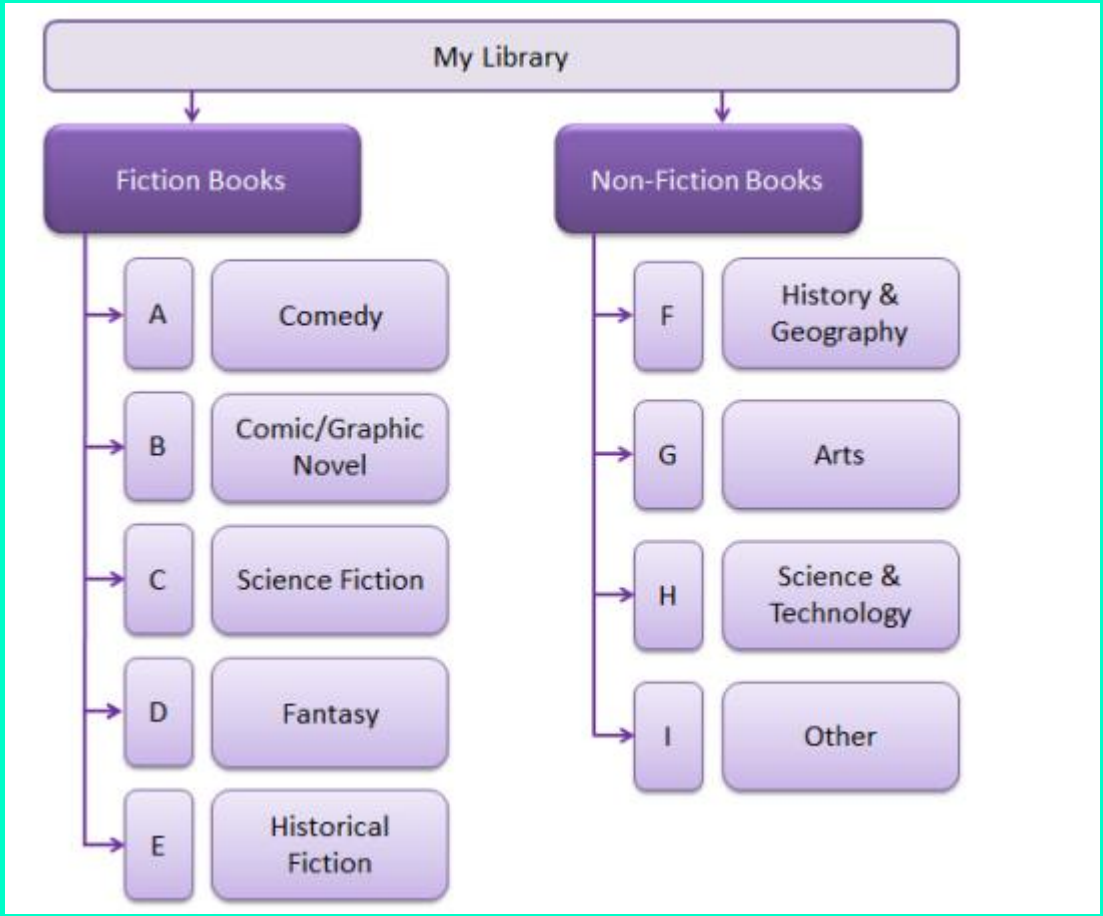
```
1 for each_key in customer_29876.keys():
2   print(each_key)
```

Looping Through Key-value Pair

```
1 customer_29876 = {
2   "first name": "David",
3   "last name": "Elliott",
4   "address": "4803 Wellesley St.",
5 }
```

Here's the code for looping through the dictionary and printing all the keys and values:

```
1 for each_key, each_value in
customer_29876.items():
2   print("The customer's " + each_key + " is " +
each_value)
```


My Library
Fiction Books
Non-Fiction Books
A
Comedy
B
Comic/Graphic Novel
C
Science Fiction
D
Fantasy
E
Historical Fiction
F
History & Geography
G
Arts
H
Science & Technology
I
Other

Your task is to write a computer program that asks the user if they are looking for a fiction or a non-fiction book.
Based on the user answer the program will ask the user to choose the genre
from a list of available genres.

```python
my_library = {
    "fiction": {
        "A": "Comedy",
        "B": "Comic",
        "C": "Science"
    },
    "non-fiction":{
        "F": "Geography",
        "G": "Arts",
        "H": "Technology"
    }
}
```

```python
ques1 = input("Enter category? (fiction/non-fiction")

if(ques1 == "fiction"):
    ques2 = input("Which type? ")
    if (ques2 == "Comedy"):
        print(my_library["fiction"])
else: #non-fiction
    print()

#DIY
```