CSCI 127: Joy and Beauty of Data

Lecture 11: Dictionaries

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Snowmester 2020
https://reesep.github.io/classes/127/main.html

Announcements

"the best way to learn a language
is to speak to natives"
the guy learning Python:

Lab 7 due **tomorrow** (Tuesday 11:59 PM)

- After today, you will be able to finish it

Program 3 due Wednesday @ 11:59 PM

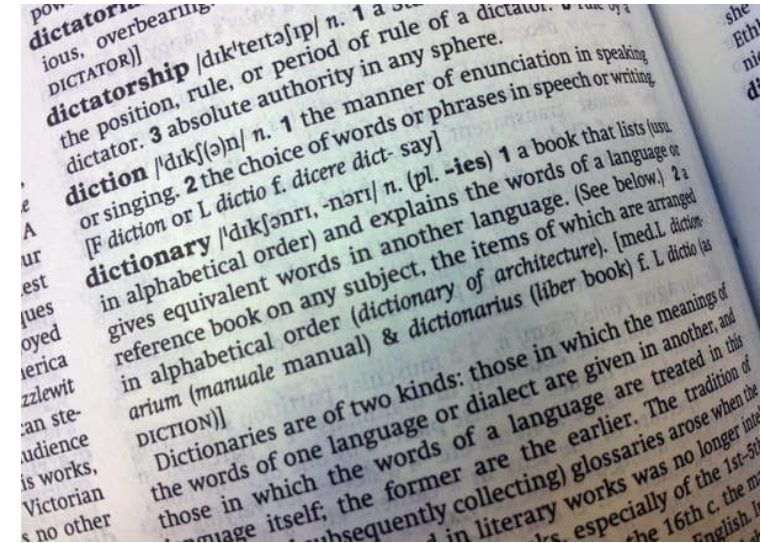- No class on Thursday and Friday
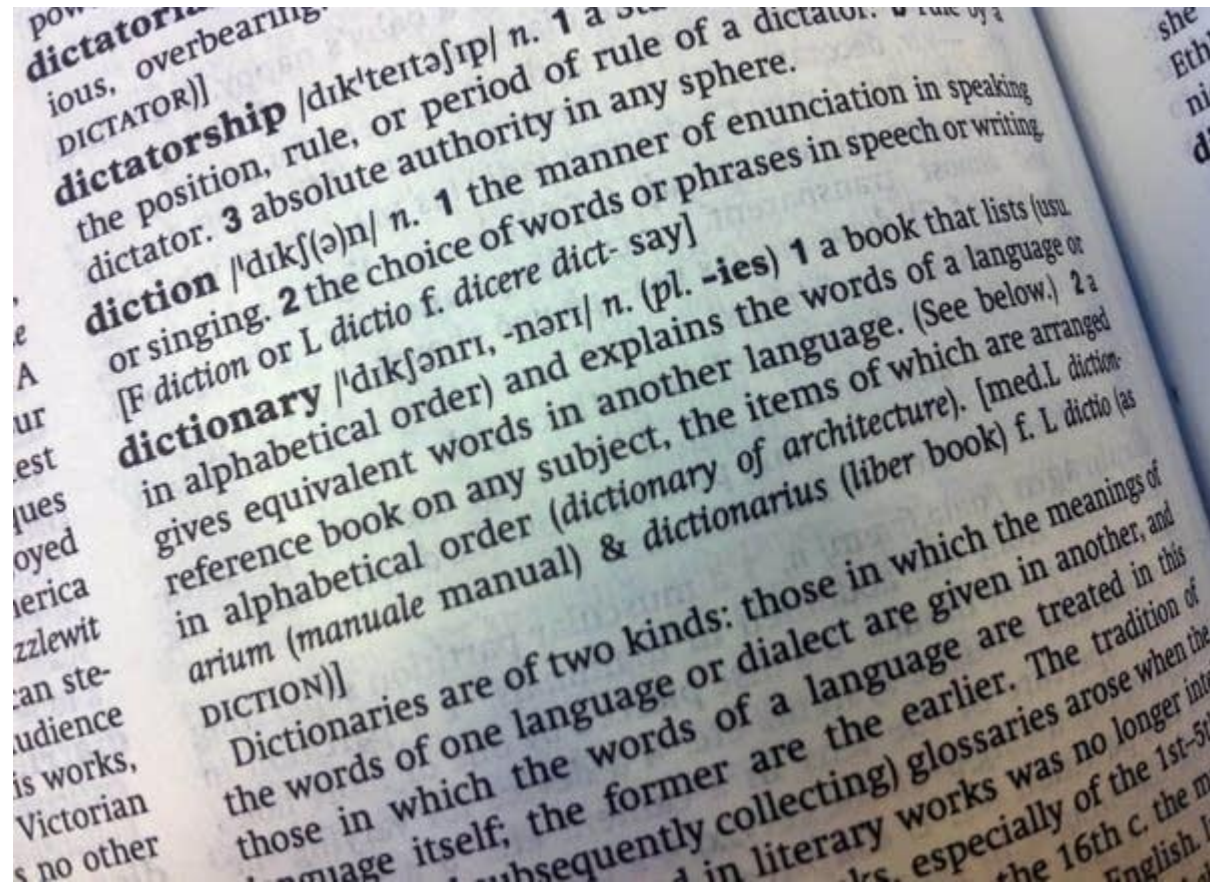
Dictionaries

Dictionaries

An unordered collection of key-value pairs

'dict' data type

Denoted by curly brackets {}

Adding a key-value pair:

```
homeruns = {}

homeruns["Babe Ruth"] = 713
```
                          ↑   ↑
                         key   value

Deleting an item

```
del homeruns["Babe Ruth"]
```

Updating an item

```
homeruns["Babe Ruth"] = 714
```

Determining Number of Items in dictionary

```
print(len(homeruns))
```

To retrieve all keys in dictionary named inventory

```
inventory.keys()

print(list(inventory.keys())
```

To retrieve all keys one at a time (for loop)

```
for each_key in inventory:
     print(each_key)
```

To check in a key named "kiwi" exists

```
If "kiwi" in inventory:
```

To retrieve all values in dictionary named inventory

```
inventory.values()

print(list(inventory.values()))
```

To retrieve all values one at a time (for loop)

```
for each_val in inventory.values():
    print(each_val)
```

To retrieve a specific value, producing a runtime error if the key is not present:

```
inventory[key-name]
```

NO runtime error if the key is not present:
```
inventory.get(key-name)
```
```
inventory.get(key-name, value-to-return-if-key-not-present)
```

To retrieve all key-value pairs in dictionary named inventory

```
inventory.items()

print(list(inventory.items()))
```

To retrieve all items one at a time (for loop)

```
for key,val in inventory.items():
    print(key,val)
```

Write a program that will count the number of times each word occurs in some text file

Write a function named `translator` that takes a parameter containing a sentence in English (no punctuation and all words in lowercase) and returns that sentence translated to Pirate.
For example, the sentence "hello there students" should be translated to "avast there swabbies".