Exercises - Part 2

October 19, 2020

0.0.1 Strings

```
# Example
pangram = "The five boxing wizards jump quickly."
print(pangram[0])
print(pangram.title())
print(pangram.replace("five", "ten"))
```

Exercise: 1. Run the cell below to assign the variable pangram 2. Use the `.upper()` method to print the pangram capital letters 3. Use the `.replace()` method to replace the word `"quickly"` with `"slowly"` 4. Use the square brackets `[ ]` to print only letter `"f"` (from `"five"`) 5. Use the square brackets `[ ]` to print only the word `"boxing"`

```
[ ]: # Exercise 1
     pangram = "The five boxing wizards jump quickly."
```

```
[ ]: # Exercise 2
```

```
[ ]: # Exercise 3
```

```
[ ]: # Exercise 4
```

```
[ ]: # Exercise 5
```

0.0.2 Lists

```
# Example
cars = ["Ford", "Mercedes", "Nissan"]
cars[0] = "Tesla"
print(cars)   # prints ['Tesla', 'Mercedes', 'Nissan']
```

1. Assign the variable `fruits = ["apple", "pear", "banana", "mango", "peach]`
2. Use the square brackets `[ ]` to print only `"banana"`
3. Use the square brackets `[ ]` to print only the last to items `"mango"` and `"peach"`
4. Use the square brackets `[ ]` to replace `"apple"` with `"orange"` (see the example)
5. Use `.append()` method to add `"kiwi"` to the list of fruits
6. Remove `"pear"` from the list of fruits

```
[ ]: # Exercise 1
```

```
[ ]: # Exercise 2
```

```
[ ]: # Exercise 3
```

```
[ ]: # Exercise 4
```

```
[ ]: # Exercise 5
```

```
[ ]: # Exercise 6
```

0.0.3 Tuples

```
# Example
```

1. Assign the variable `workweek = ("Monday", "Tuesday", "Wednesday", "Thursday", "Friday")`
2. Use the index position (square brackets) to print your favourite workday
3. Use the index positions to print the last two days of the workweek
4. Use the `.count()` method to find out how many times the letter `b` is in `("a", "b", "b", "a", "b", "a", "b", "b")`
5. *Trick question*: remove `"Monday"` from the workweek

```
[ ]: # Exercise 1
```

```
[ ]: # Exercise 2
```

```
[ ]: # Exercise 3
```

```
[ ]: # Exercise 4
```

```
[ ]: # Exercise 5
```

0.0.4 Dictionaries

```
# Example
person = {"name": "Alice", "age": 42, "email": "alice@gmail.com"}
print(person.get("email"))
print(person["email"])    # shortcut
```

1. Assign the variable `grades = {"French": 75, "English": 95, "Math": 100, "Biology": 80}`
2. Use the `.get()` method to print the grade for `Biology`
3. Get the grade for `Biology` again by using the shortcut (see example)
4. Use the `.keys()` method to print all the keys (subjects) in the dictionary
5. Use the `.values()` method to print all the values (grades) in the dictionary
6. Use the `.items()` method to print a list of tuples of the subjects and their respective grades

Extra challenge: add `"Drama"` to the dictionary with a grade of `85`

```
[ ]: # Exercise 1
```

```
[ ]: # Exercise 2
```

```
[ ]: # Exercise 3
```

```
[ ]: # Exercise 4
```

```
[ ]: # Exercise 5
```

```
[ ]: # Exercise 6
```

```
[ ]: # Extra challenge
```

0.0.5 Sets

```
# Example
characters = ["a", "b", "b", "c"]
unique_chars = set(characters)
print(unique_chars)
```

Exercise: 1. Assign the variable `names = ["Deborah", "John", "Tyler", "Linda", "Douglas", "Jessica", "Tyler", "John", "Danielle", "Jessica"]` 2. Create variable `unique_names` and assign it list of the names, but without duplicates. Print the result to the screen. 3. How often does a name appear multiple times in the list? Use Python to find the answer. 4. Use the `.add()` method to add your own name to the list with unique names

```
[ ]: # Exercise 1
```

```
[ ]: # Exercise 2
```

```
[ ]: # Exercise 3
```

```
[ ]: # Exercise 4
```