Lesson 4 Hands-On

Directions

For your Lesson 4 Hands-On, you will be practicing your new skills with Python dictionaries. For this project, you will be creating a new directory, so please follow the below setup instructions. This Hands-On **will** be graded, so be sure you complete all requirements.

Additional Info!

Before beginning this hands-on, you may want to watch this recorded live workshop that goes over a similar example.

Setup

1. First, open up your command prompt/terminal

Within your command prompt/terminal, run the following command:
`cd desktop`
   2.

Next, run the following:
`cd python_course`
   3.

Run the following to create a new directory for this project:

`mkdir lesson_four_handson`

4.
5. Open up a new window in VSCode.
6. Click on the "Explorer" button on the left-hand side of the VSCode window.
7. Click the `Open Folder` button.
8. Select the `lesson_four_handson` directory within the `python_course` folder on your Desktop. Click the `Open` button.
9. Create a new file named `main.py` by one of the following three ways:
   - To the right of **LESSON_FOUR_HANDSON** in the EXPLORER is a button that looks like a piece of paper with a plus symbol in its top-left corner. If you hover your mouse over this button for a moment, a popup will appear indicating that this button will create a new file.
   - Choose `File > New File` from the app's menu.
   - Press `Control + N` in Windows or `Command + N` on a Mac (the plus means "and at the same time").

Now you are ready to get started on your Lesson 4 Hands-On!

Requirements

This hands-on is broken into three parts. Please complete each part within your `main.py` file.

Part 1

- Create two dictionaries to represent information about two pets. Each dictionary should contain the following information (different for each pet):
    - Pet's Name (This should be the name of your dictionary)
    - Type of Pet
    - Color
    - Nickname
    - Owner's Name

Iterate over each dictionary, printing each key-value pair on one line. The output should be similar to the below:

Name: Elsa - Dictionary name
```
Type: Cat
Color: White and Orange
Nickname: Birchy
Owner: Kurt

Name: Big - Dictionary name
Type: Dog
Color: Black
Nickname: Walnut
Owner: Olivia
```

Code:
```
Elsa = {
    'Type' : 'Cat',
    'Color' : 'White and Orange',
    'Nickname' : 'Birchy',
    'Owner' : 'Kurt'
    }

Big = {
    'Type' : 'Dog',
    'Color' : 'Black',
    'Nickname' : 'Walnut',
    'Owner' : 'Olivia'
}

print(Big)
print(Elsa)
```

Visual Studio Code:

```
lesson_four_handson >  main.py > [o] Elsa
  1    Elsa = {
  2    💡   'Type' : 'Cat',
  3         'Color' : 'White and Orange',
  4         'Nickname' : 'Birchy',
  5         'Owner' : 'Kurt'
  6         }
  7
  8    Big = {
  9         'Type' : 'Dog',
 10         'Color' : 'Black',
 11         'Nickname' : 'Walnut',
 12         'Owner' : 'Olivia'
 13    }
 14
 15    print(Big)
 16    print(Elsa)
```

Terminal Code:

```
>>> Elsa = {
...      'Type' : 'Cat',
...      'Color' : 'White and Orange',
...      'Nickname' : 'Birchy',
...      'Owner' : 'Kurt'
...      }
>>>
>>> Big = {
...      'Type' : 'Dog',
...      'Color' : 'Black',
...      'Nickname' : 'Walnut',
...      'Owner' : 'Olivia'
... }
>>>
>>> print(Big)
{'Type': 'Dog', 'Color': 'Black', 'Nickname': 'Walnut', 'Owner': 'Olivia'}
>>> print(Elsa)
{'Type': 'Cat', 'Color': 'White and Orange', 'Nickname': 'Birchy', 'Owner': 'Kurt'}
>>> 
```

Part 2

1. Add three new dictionaries to your program.
    ○ Each dictionary should represent a city around the world.

Add the below dictionaries to your `main.py` file:
```
england = {'Capital': 'London'}
france = {'Capital': 'Paris'}
belgium = {'Capital': 'Brussels'}
```
2.
3. Given the above dictionaries, add the following information to each dictionary:
    ○ Population
        ■ The population of England is 53.01 million
        ■ The population of France is 66.9 million
        ■ The population of Belgium is 11.35 million
    ○ Interesting Fact+
        ■ England largest country in Great Britain
        ■ France 'the hexagon'
        ■ Belgium area of 30,528 square km
    ○ Top Language Spoken by Locals
        ■ England English
        ■ France Occitan
        ■ Belgium Dutch
4. Once you have added the necessary information into the dictionaries, loop through each one and print out all key-value pairs.

Code:
```
england = {'Capital': 'London'}
england['Population'] = '53.01 million'
england['Fact'] = 'largest country in Great Britain'
england['Language'] = 'English'
for k, v in england.items():
    print(k, v)

france = {'Capital': 'Paris'}
france['Population'] = '66.9 million'
france['Fact'] = 'the hexagon'
france['Language'] = 'Occitan'
for k, v in france.items():
```

```
    print(k, v)


belgium = {'Capital': 'Brussels'}
belgium['Population'] = '11.35 million'
belgium['Fact'] = 'area of 30,528 square km'
belgium['Language'] = 'Dutch'
for k, v in belgium.items():
    print(k, v)
```

Visual Studio Code:

```
#part 2
england = {'Capital': 'London'}
england['Population'] = '53.01 million'
england['Fact'] = 'largest country in Great Britain'
england['Language'] = 'English'
for k, v in england.items():
    print(k, v)


france = {'Capital': 'Paris'}
france['Population'] = '66.9 million'
france['Fact'] = 'the hexagon'
france['Language'] = 'Occitan'
for k, v in france.items():
    print(k, v)



belgium = {'Capital': 'Brussels'}
belgium['Population'] = '11.35 million'
belgium['Fact'] = 'area of 30,528 square km'
belgium['Language'] = 'Dutch'
for k, v in belgium.items():
    print(k, v)
```

Terminal:

```
>>> england = {'Capital': 'London'}
>>> england['Population'] = '53.01 million'
>>> england['Fact'] = 'largest country in Great Britain'
>>> england['Language'] = 'English'
>>> for k, v in england.items():
...     print(k, v)
...
Capital London
Population 53.01 million
Fact largest country in Great Britain
Language English
>>> france = {'Capital': 'Paris'}
>>> france['Population'] = '66.9 million'
>>> france['Fact'] = 'the hexagon'
>>> france['Language'] = 'Occitan'
>>> for k, v in france.items():
...     print(k, v)
...
Capital Paris
Population 66.9 million
Fact the hexagon
Language Occitan
>>> belgium = {'Capital': 'Brussels'}
>>> belgium['Population'] = '11.35 million'
>>> belgium['Fact'] = 'area of 30,528 square km'
>>> belgium['Language'] = 'Dutch'
>>> for k, v in belgium.items():
...     print(k, v)
...
Capital Brussels
Population 11.35 million
Fact area of 30,528 square km
Language Dutch
```

Part 3

1. Add a dictionary to your program that replicates a user's pizza order.
   Name this dictionary `pizza_order` and it should contain the following:
     o Customer's Name - Paul

- What size pizza they have ordered - Large
- What type of crust - California Style
- What toppings they would like.
  - Toppings should include at least three separate toppings
  - Ham Pepperoni Mushroom

```python
pizza_order = {
    'Name' : 'Paul',
    'Size Pizza' : 'large',
    'Type Crust' : 'california style',
    'Toppings' : 'ham, ' 'pepperoni, ' 'mushroom'
}

print(pizza_order)
```

```
42    #part 3
43  v pizza_order = {
44        'Name' : 'Paul',
45        'Size Pizza' : 'large',
46        'Type Crust' : 'california style',
47        'Toppings' : 'ham, ' 'pepperoni, ' 'mushroom'
48    }
49
50    print(pizza_order)
51
```

```
>>> pizza_order = {
...     'Name' : 'Paul',
...     'Size Pizza' : 'large',
...     'Type Crust' : 'california style',
...     'Toppings' : 'ham, ' 'pepperoni, ' 'mushroom'
... }
>>>
>>> print(pizza_order)
{'Name': 'Paul', 'Size Pizza': 'large', 'Type Crust': 'california style', 'Toppings': 'ham, pepperoni, mushroom'}
>>>
```

2. Next, print out the customer's order:
  o Thank them for their order using their name

print("Thank you for order, " + pizza_order.get('Name'))

```
print("Thank you for order, " + pizza_order.get('Name'))
```

```
>>> print("Thank you for order, " + pizza_order.get('Name'))
Thank you for order, Paul
```

  o Print out what they're ordering
  o Print out the list of toppings (minimum 3)

```
print("You have ordered a " + str(pizza_order.get("Size Pizza")) + " " +
str(pizza_order.get("Type Crust")) + " " + "pizza with the following
toppings: " + str(pizza_order.get('Toppings' )))
```

```
>>> print("You have ordered a " + str(pizza_order.get("Size Pizza")) + " " + str(pizza_order.get("Type Crust")) + " " + "pizza with the following
toppings: " + str(pizza_order.get('Toppings' )))
You have ordered a large california style pizza with the following toppings: ham, pepperoni, mushroom
>>>
```

Your output should look similar to the following:
Thank you for your order, Andrew
You have ordered a small, thin-crust pizza with the following
toppings:
extra cheese, sausage, bacon
  3.
    o Use the `print()` and `get()` functions