

Directions

For your 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
2. Within your command prompt/terminal, run the following command:

```
cd desktop
```

3. Next, run the following:

```
cd python_course
```

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

```
mkdir lesson_four_handson
```

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.

Be sure to zip and submit your entire directory when finished!

Part 1

1. Create 2 dictionaries for 2 pets

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

2. Print each key-value for the 2 pet dictionaries

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

```
Type: Cat
Color: White and Orange
Nickname: Birchy
Owner: Kurt
Type: Cat
Color: Tortoise Shell
Nickname: Palnut
Owner: Olivia
```

INPUT

```
# 1.1 Create dictionaries for 2 pets
SlimJim = {
    'Type': 'dog',
    'Color': 'grey',
    'Nickname': 'Slim',
    'Owner': 'Jarrod'
}

LittleDebbie = {
    'Type': 'dog',
    'Color': 'black',
    'Nickname': 'Debber',
    'Owner': 'Heather'
}

# 1.2 Print each key-value for pet dictionaries
# Create list of dictionaries
```

```

pets = [SlimJim, LittleDebbie]

# Print SlimJim dictionary
for key,value in SlimJim.items():
    print(key,": ",value)
# Print LittleDebbie dictionary
for key,value in LittleDebbie.items():
    print(key,": ",value)

```

OUTPUT

```

# 1.1 Create dictionaries for 2 pets
SlimJim = {
    'Type': 'dog',
    'Color': 'grey',
    'Nickname': 'Slim',
    'Owner': 'Jarrod'
}

LittleDebbie = {
    'Type': 'dog',
    'Color': 'black',
    'Nickname': 'Debber',
    'Owner': 'Heather'
}

# 1.2 Print each key-value for pet dictionaries
# Create list of dictionaries
pets = [SlimJim, LittleDebbie]

# Print SlimJim dictionary
for key,value in SlimJim.items():
    print(key,": ",value)
# Print LittleDebbie dictionary
for key,value in LittleDebbie.items():
    print(key,": ",value)

```

```

✓ SlimJim = { ...
...
Type : dog
Color : grey
Nickname : Slim
Owner : Jarrod
Type : dog
Color : black
Nickname : Debber
Owner : Heather

```

Part 2

2.1 Add 3 dictionaries, each one a city

Add three new dictionaries to your program.

Each dictionary should represent a city around the world.

2.2 Add the below dictionaries to your `main.py` file:

```
england = {'Capital': 'London'}  
france = {'Capital': 'Paris'}  
belgium = {'Capital': 'Brussels'}
```

2.3 Add this information to the dictionaries

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
- Top Language Spoken by Locals

2.4 Print all the key-value pairs for city dictionaries

Once you have added the necessary information into the dictionaries, loop through each one and print out all key-value pairs.

INPUT

```
# Part 2 #####

# 2.1 Create dictionaries for 3 cities
# EXTRA Add `PLACE` for prettier printout
London = {'PLACE': 'LONDON', 'Country': 'England'}
Paris = {'PLACE': 'PARIS', 'Country': 'France'}
Brussels = {'PLACE': 'BRUSSELS', 'Country': 'Belgium'}

# 2.2 Add these dictionaries for 3 countries
# EXTRA Add `PLACE` for prettier printout
england = {'PLACE': 'ENGLAND', 'Capital': 'London'}
france = {'PLACE': 'FRANCE', 'Capital': 'Paris'}
belgium = {'PLACE': 'BELGIUM', 'Capital': 'Brussels'}

# 2.3a Add `Population` to dictionaries
London['Population'] = '8.982 million'
Paris['Population'] = '2.161 million'
Brussels['Population'] = '2.110 million'
england['Population'] = '53.01 million'
france['Population'] = '66.9 million'
belgium['Population'] = '11.35 million'

# 2.3b Add `Interesting Fact` to dictionaries
London['Interesting Fact'] = 'London Has 170 Museums.'
Paris['Interesting Fact'] = 'The first photo of a person ever taken
was in Paris.'
Brussels['Interesting Fact'] = 'Brussels has 138 restaurants per
square mile.'
england['Interesting Fact'] = 'England fought the shortest war in
history.'
france['Interesting Fact'] = 'France Is the Most-Visited Country in
the World.'
```

```
belgium['Interesting Fact'] = 'Belgium holds the world record for  
the longest period without a government.'
```

```
# 2.3c Add `Top Local Language` to dictionaries
```

```
London['Top Local Language'] = 'English'
```

```
Paris['Top Local Language'] = 'French'
```

```
Brussels['Top Local Language'] = 'French'
```

```
england['Top Local Language'] = 'English'
```

```
france['Top Local Language'] = 'French'
```

```
belgium['Top Local Language'] = 'French'
```

```
# Make a list for iterating a loop
```

```
Places = [London, Paris, Brussels, england, france, belgium]
```

```
# Use list index to move through loop with Places list
```

```
print("\nLIST OF PLACES\n")
```

```
current_index = 0
```

```
while current_index < len(Places):
```

```
    for key,value in Places[current_index].items():
```

```
        print(key, ": ", value)
```

```
    print("\n")
```

```
    current_index += 1
```

OUTPUT

```
1 |
2 LIST OF PLACES
3
4 PLACE : LONDON
5 Country : England
6 Population : 8.982 million
7 Interesting Fact : London Has 170 Museums.
8 Top Local Language : English
9
10
11 PLACE : PARIS
12 Country : France
13 Population : 2.161 million
14 Interesting Fact : The first photo of a person ever taken was in Paris.
15 Top Local Language : French
16
17
18 PLACE : BRUSSELS
19 Country : Belgium
20 Population : 2.110 million
21 Interesting Fact : Brussels has 138 restaurants per square mile.
22 Top Local Language : French
23
24
25 PLACE : ENGLAND
26 Capital : London
27 Population : 53.01 million
28 Interesting Fact : England fought the shortest war in history.
29 Top Local Language : English
30
31
32 PLACE : FRANCE
33 Capital : Paris
34 Population : 66.9 million
35 Interesting Fact : France Is the Most-Visited Country in the World.
36 Top Local Language : French
37
38
39 PLACE : BELGIUM
40 Capital : Brussels
41 Population : 11.35 million
42 Interesting Fact : Belgium holds the world record for the longest period without a government.
43 Top Local Language : French
44
```

Part 3

3.1 Add a pizza order dictionary

Add a dictionary to your program that replicates a user's pizza order.

Name this dictionary `pizza_order` and it should contain the following:

- Customer's Name
- What size pizza they have ordered
- What type of crust
- What toppings they would like.
- Toppings should include at least three separate toppings

3.2 Print out the `pizza_order` dictionary

Next, print out the customer's order:

- Thank them for their order using their name
- Print out what they're ordering
- Print out the list of toppings (minimum 3)

NOTE: 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
```

HINT: Use the `print()` and `get()` functions

INPUT

```
# Part 3 #####

# 3.1 Add a pizza order dictionary
pizza_order = {
    'customer_name': 'Andrew',
```

```

    'pizza_size': 'small',
    'crust_type': 'thin-crust',
    'toppings': ['extra cheese', 'sausage', 'bacon']
}

# 3.2 Print out the `pizza_order` dictionary
print("Thank you for your order, ",
      pizza_order.get('customer_name'))
print("You have ordered a ",
      pizza_order.get('pizza_size'), ", ",
      pizza_order.get('crust_type'), " pizza with the following
toppings: ")
print(pizza_order['toppings'][0], ", ",
      pizza_order['toppings'][1], ", ",
      pizza_order['toppings'][2], ".")

```

OUTPUT

```

86 # Part 3 ##### ... Thank you for your order, Andrew
87
88 # 3.1 Add a pizza order dictionary
89 pizza_order = {
90     'customer_name': 'Andrew',
91     'pizza_size': 'small',
92     'crust_type': 'thin-crust',
93     'toppings': ['extra cheese', 'sausage', 'bacon']
94 }
95
96 # 3.2 Print out the `pizza_order` dictionary
97 print("Thank you for your order, ", pizza_order.get('custom
98 print("You have ordered a ",
99     pizza_order.get('pizza_size'), ", ",
100     pizza_order.get('crust_type'),
101     " pizza with the following toppings: ")
102 print(pizza_order['toppings'][0], ", ",
103     pizza_order['toppings'][1], ", ",
104     pizza_order['toppings'][2], ".")

```

You have ordered a small , thin-crust pizza
 with the following toppings:
 extra cheese , sausage , bacon .