

House of Pies Exercise

Python - Lesson 2 – Activity 4

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Instructions:

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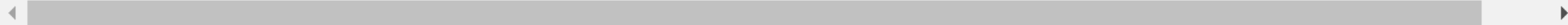
Part 1

- Create an order form that will display a list of pies to the user in the following way:

```
Welcome to the House of Pies! Here are our pies:
```

```
-----
```

```
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, (5) Black Bun, (6) Blueberry, (7) Buko, (8) Burek, (9) Tamale, (10) S
```



- Then prompt the user to select which pie they'd like to order via number.
- Immediately after, follow the order with `Great! We'll have that <PIE NAME> right out for you.` and then ask if they would like to make another order. If so, repeat the process.
- Once the user is done purchasing pies, print the total number of pies ordered.

Define variables in advance:

- shopping: in this case it helps us to save the answer for our user.
 - Variable 1 define by `=`.

Variable 1

```
# Initial variable to track shopping status  
shopping = 'y'
```

- pie_purchases: in this variable the user option will be storage.
 - Variable 2 define by `=`.
 - The parameter is defined by `[]`, because inside of it we are going to storage the chosen options.

Variable 2

```
# List to track pie purchases  
pie_purchases = []
```

List: are defined by `[]`, the order (vertical or horizontal) doesn't make any difference.

- *pie_list*: define your variable 3 using `=`.
- Always add `,` at the end of each list, except the last value.
- If is a string value (text), add `" "` in between.

```
# Pie List
pie_list = ["Pecan", "Apple Crisp", "Bean", "Banoffee", "Black Bun",
            "Blueberry", "Buko", "Burek", "Tamale", "Steak"]
```

Print a welcome message & options.

- Remember to use always `()` and `" "` for write a message.

```
# Display initial message
print("Welcome to the House of Pies! Here are our pies:")
```

```
# Show pie selection prompt
print("-----")
print("(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, " +
      " (5) Black Bun, (6) Blueberry, (7) Buko, (8) Burek, " +
      " (9) Tamale, (10) Steak ")
```

Append or Concatenate the options:

- Use variable 2, pie_purchase [] to save the options obtained in the input.
- pie_choise: defined as variable 4, here the option will be received.
- append function: requires **previous** define variable, also **.** in between and **()**.

```
pie_choice = input("Which would you like? ")

# Add pie to the pie list
pie_purchases.append(pie_choice)
```

APPEND:

pie_purchase.append(pie_choise)

pie_purchase.append(1)

pie_purchase[1,2,3, ...]

**Saves the input as list because of []*

RESULT:

```
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee,
Which would you like? 2
['2']
```

Print the option the user choose:

- We need to concatenate the text and options with **+**.

```
print("-----")  
  
# Inform the customer of the pie purchase  
print("Great! We'll have that " + pie_list[int(pie_choice) - 1] + " right out for you.")
```

FORMULA:

$pie_list[int(pie_choise) - 1]$

$pie_list[int(1) - 1]:$

$pie_list[0]:$

**In python the start counting number is 0, that is why we need to subtract from the chosen option.*

RESULT:

```
-----  
Great! We'll have that Pecan right out for you.
```

While – Ask if the person wants another pie:

- shopping: variable 1, set as “yes” for asking the user if they want an extra pie.
- while: the iteration occurs while the parameter is met.

```
while shopping == "y":  
  
    # Provide exit option  
    shopping = input("Would you like to make another purchase: (y)es or (n)o? ")
```

DEFINE VAR & ASK INPUT:

```
while shopping == "yes"  
    shopping = input("Would you like...")  
  
    shopping = yes  
  
    shopping = input("Would you like...")
```

*If the variable is string, requires the **" "**. Do not forget the **indentation & :**
(sangría) when using for & while.

RESULT:

```
Great! We'll have that Pecan right out for you.  
Would you like to make another purchase: (y)es or (n)o? y  
-----  
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, (5) Black Bun,  
Which would you like? 
```

Print the options the user choose:

- We need to concatenate the text and options with **+**.

```
# Once the pie list is complete
print("-----")
print("You purchased a total of " + str(len(pie_purchases)) + ".")
```

FORMULA:

str(len(pie_purchases))

str(len(1,3,6))

str(3)

"3"



RESULT:

```
-----
You purchased a total of 3.
```


BONUS

Instructions:

Part 2 (Very Challenging!)

- Modify the application once again, this time conclude the user's purchases by listing out the total pie count broken by *each* pie.

You purchased:

0 Pecan

0 Apple Crisp

0 Bean

2 Banoffee

0 Black Bun

0 Blueberry

0 Buko

0 Burek

0 Tamale

1 Steak

Reset & define variables:

- pie_purchases: in this variable the user option will be storage.
 - Variable 2 define by =.
 - The parameter is defined by [0,0,0,0,0,0,0,0,0], according with the list of options the user has.

Variable 2

```
# List to track pie purchases  
pie_purchases = [0, 0, 0, 0, 0, 0, 0, 0, 0]
```

- choice_index: in this variable 5 the subtract of 1 is done.
 - The parameter is defined as integer int, because the options always returns as string. This way the calculations are able to make.

Variable 5

```
# Get index of the pie from the selected number  
choice_index = int(pie_choice) - 1
```

Calculation & Result:

- Redefined pie_purchases: in this variable the user option will be storage.
 - The parameter is defined by [], because inside of it we are going to storage the chosen options.

```
# Add pie to the pie list by finding the matching index and adding one to its value
pie_purchases[choice_index] += 1
```

FORMULA:

$pie_purchases[choice_index] += 1$
 $pie_purchase[choice_index] = pie_purchase[choice_index] + 1$
 $pie_purchases[0]$
 $pie_purchases[choice_index] += 1$
 $pie_purchases[0] + [0]$
 $pie_purchases[0 + 0]$

**The options will be adding and storing in variable pie_purchase.*

RESULT:

```
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, (5) Black Bun,
Which would you like? 1
[1, 0, 0, 0, 0, 0, 0, 0, 0, 0]
-----
Great! We'll have that Pecan right out for you.
Would you like to make another purchase: (y)es or (n)o? y
-----
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, (5) Black Bun,
Which would you like? 2
[1, 1, 0, 0, 0, 0, 0, 0, 0, 0]
-----
Great! We'll have that Apple Crisp right out for you.
Would you like to make another purchase: (y)es or (n)o? y
-----
(1) Pecan, (2) Apple Crisp, (3) Bean, (4) Banoffee, (5) Black Bun,
Which would you like? 1
[2, 1, 0, 0, 0, 0, 0, 0, 0, 0]
```

For Iteration 1 – list the options:

- `pie_index`: variable 6, it will help to allocate the chosen options.

```
# Loop through the full pie list
for pie_index in range(len(pie_list)):
    pie_count = str(pie_purchases[pie_index])
    pie_name = str(pie_list[pie_index])
```

LOOP:

for `pie_index` in range(len(`pie_list`)):

for `pie_index` in range(len(10)):

for `pie_index` in range(10):



RESULT:

```
You purchased:
0
3 Pecan
1
0 Apple Crisp
2
0 Bean
3
0 Banoffee
4
0 Black Bun
5
0 Blueberry
6
0 Buko
7
0 Burek
8
0 Tamale
9
0 Steak
```

Set variables:

- `pie_count`: variable 7 to save & show the the number of chosen options.
- `pie_name`: variable 8 to save & show the the name of chosen options.

FORMULA:

```
pie_count = str(pie_purchases[pie_index])
```

```
pie_count = str(pie_purchases[0 + 0])
```

```
pie_count = str(0 + 0)
```

```
pie_count = str(2)
```

```
pie_count = "2"
```

```
pie_name = str(pie_list[0 + 0])
```

```
pie_name = str(pie_list[0 + 0])
```

```
pie_name = str(0)
```

```
pie_name = "Pecan"
```

**I recommend to remove the str, the pie_name is already string.*

RESULT:

```
You purchased:  
2  
Pecan  
2 Pecan  
1  
Apple Crisp  
1 Apple Crisp  
0  
Bean  
0 Bean  
0  
Banoffee  
0 Banoffee  
0  
Black Bun  
0 Black Bun
```

Print the options the user choose:

- We need to concatenate the text and options with **+**.

```
# Gather the count of each pie in the pie list and print them alongside the pies  
print(pie_count + " " + pie_name)
```

PRINT:

```
print(pie_count + " " + pie_name)
```

```
print(2 + " " + Pecan)
```

```
"2 Pecan"
```

RESULT:

```
You purchased:  
2 Pecan  
1 Apple Crisp  
0 Bean  
0 Banoffee  
0 Black Bun  
0 Blueberry  
0 Buko  
0 Burek  
0 Tamale  
0 Steak
```