Candy Shop Exercise

Python - Lesson 2 – Activity 3

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Instructions:

Kid in a Candy Store

In this activity, you are creating the code a candy store will use in their state of the art candy vending machine!

Instructions

- Create a loop that prints all of the candies in the store to the terminal with their index stored in brackets beside them.
    - For example: `"[0] Snickers"`
- Create a second loop that runs for a set number of times as determined by the variable `allowance`.
    - For example: If allowance is equal to five, the loop should run five times.
    - Each time this loop runs, take in a user's input - preferably a number - and then add the candy with a matching index to the variable `candy_cart`.
    - For example: If the user enters "0" as their input, "Snickers" should be added into the `candy_cart` list.
- Create a final loop to print all of the candies selected to the terminal.

Bonus

- Create a version of the same code which allows a user to select as much candy as they want up until they say they do not want any more.

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

- *candy_list*: define your variable 1 using =.
- Always add , at the end of each list, except the last value.
- If is a string value (text), add " " in between.

Vertical

```
# The list of candies to print to the screen
candy_list = [
    "Snickers",
    "Kit Kat",
    "Sour Patch Kids",
    "Juicy Fruit",
    "Swedish Fish",
    "Skittles",
    "Hershey Bar",
    "Starbursts",
    "M&Ms"
]
```

Horizontal

```
# The list of candies to print to the screen
candy_list = ["Snickers", "Kit Kat", "Sour Patch Kids", "Juicy Fruit", "Swedish Fish",
"Skittles","Hershey Bar", "Starbursts","M&Ms"]
```

Define other variables:

- allowance: in this case is the number of times the person can chose an option.
  - Variable 2 define by =.
  - Numeric parameter as integer, the definition is not needed.

Variable 2

```
# The amount of candy the user will be allowed to choose
allowance = 5
```

- candy_cart: in this variable the option will be storage.
  - Variable 3 define by =.
  - The parameter is defined by [ ], because inside of it we are going to storage the chosen options.

Variable 3

```
# The list used to store all of the candies selected inside of
candy_cart = []
```

For Iteration 1 – Print the list of option using [ ]:

- candy: variable 4 used to save the total option in the candy list.
  - FOR needs IN and : in between the variables.
  - Candy will contain each of the candies in the candy_list.
- 2 ways to solve it:
  - Len function: returns the length of the list (ex. in this case the candy list contains 9, so the range will be 9). Use ( ) to define the parameter.
    - Range function: returns the range according to the number/variable defined. Use ( ) to define the parameter.
  - Index function: returns the index of a list.
    - f' function: converts the numeric values into string (text). Important requires { } the value to be convert into string. This function does not require , in between the variables/formulas.

Option 1

```
for candy in candy_list:
    print(f'[{str(candy_list.index(candy))}] {candy}')
```

Option 2

```
for i in range(len(candy_list)):
    print('[' + str(i) + ']',candy_list[i])
```

Option 1:

```
for candy in candy_list:
    print(f'[{str(candy_list.index(candy))}] {candy}')
```

LOOP:

$$for\ candy\ in\ candy\_list:$$

PRINT:

$$print(f'[\{str(candy\_list.index(candy))\}]\ \{candy\}')$$

$$print(f'[\{str(candy\_list.index(9))\}]\ \{9\}')$$

$$print(f'[\{str((9))\}]\ \{9\}')$$

$$print([0] + Snickers)$$

**I recommend to remove the str, the f' already does the string.*

RESULT:

```
[0] Snickers
[1] Kit Kat
[2] Sour Patch Kids
[3] Juicy Fruit
[4] Swedish Fish
[5] Skittles
[6] Hershey Bar
[7] Starbursts
[8] M&Ms
```

Option 2:

```
for i in range(len(candy_list)):
    print('[' + str(i) + ']',candy_list[i])
```

LOOP:

$for\ i\ in\ range(len(candy\_list)):$

$for\ i\ in\ range(len(9)):$

$for\ i\ in\ range(9):$

PRINT:

$print('[' + str(i) + ']' + candy\_list[i])$

$print('[str(i)]' + candy\_list[i])$

$print('[str(0)]' + candy\_list[0])$

$print([0] + Snickers)$

RESULT:

```
[0] Snickers
[1] Kit Kat
[2] Sour Patch Kids
[3] Juicy Fruit
[4] Swedish Fish
[5] Skittles
[6] Hershey Bar
[7] Starbursts
[8] M&Ms
```

For Iteration 2 – Ask for the options:

- selected: variable 5, it will help to allocate the chosen options.

```
# Run through a loop which allows the user to choose which candies to take home with them
print("Which candy would you like to bring home?")
for x in range(allowance):
    selected = input("Input the number of the candy you want: ")
```

LOOP:

$for\ x\ in\ range(allowance)$:

$for\ x\ in\ range(5)$:

DEFINE VAR & ASK INPUT:

$selected = input("Input\ the\ number\ \ldots")$

$selected = Input\ the\ number\ldots$

$selected = 1$

RESULT:

```
Input the number of the candy you want: 1
1
Input the number of the candy you want: 2
2
Input the number of the candy you want: 3
3
Input the number of the candy you want: 4
4
Input the number of the candy you want: 5
5
```

Append or Concatenate the options:

- Use variable 2, candy_cart [ ] to save the options obtained in the input.
- append fucntion: requires previous define variable, also . in between and ().

```
# Add the candy at the index chosen to the candy_cart list
candy_cart.append(candy_list[int(selected)])
```

APPEND:

$$candy\_cart.append(candy\_list[int(selected)])$$

$$candy\_cart.append(candy\_list[int(1)])$$

$$candy\_cart.append(candy\_list[int(2)])$$

$$candy\_cart["Kit\ Kat","Juicy\ Fruit",\dots]$$

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

RESULT:

```
Input the number of the candy you want: 1
['Kit Kat']
Input the number of the candy you want: 2
['Kit Kat', 'Sour Patch Kids']
Input the number of the candy you want: 3
['Kit Kat', 'Sour Patch Kids', 'Juicy Fruit']
Input the number of the candy you want: 4
['Kit Kat', 'Sour Patch Kids', 'Juicy Fruit', 'Swedish Fish']
Input the number of the candy you want: 5
['Kit Kat', 'Sour Patch Kids', 'Juicy Fruit', 'Swedish Fish', 'Skittles']
```

Print the options using a For Iteration:

- Using for, the print shows 1 by 1 from data save in candy_cart.

```
# Loop through the candy_cart to say what candies were brought home
print("I brought home with me...")
for candy in candy_cart:
    print(candy)
```

FOR:

$for\ candy\ in\ candy\_cart:$

$print(candy)$

$\#\ print\ candy\_cart\ options\ 1\ by\ 1.$

**The variable "candy" is not linked to the first candy; it just helps to as variable to print.*

RESULT:

```
Kit Kat
Sour Patch Kids
Juicy Fruit
Swedish Fish
Skittles
```

BONUS

While – Ask how many candies the person wants:

- answer: variable 6, set as “yes” for asking the user if the want an extra candy.
- while: the iteration occurs while the parameter is met.
- allowance variable is removed by the while and also the for.

```
# Set answer to "yes" for while loop
answer = "yes"

while answer == "yes":

    # ask the user if they want more candy
    answer = input("Would you like to make another selection? ('yes' or 'no') ")
```

DEFINE VAR & ASK INPUT:

$$while\ answer == "yes":$$

$$answer\ = input("\text{Would you like...}) ")$$

$$answer = \text{yes}$$

$$answer\ = input("\text{Would you like...}) ")$$

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

RESULT:

```
Which candy would you like to bring home?
Input the number of the candy you want: 2
Would you like to make another selection? ('yes' or 'no') yes
Which candy would you like to bring home?
Input the number of the candy you want: 2
Would you like to make another selection? ('yes' or 'no') no
I brought home with me...
Sour Patch Kids
Sour Patch Kids
```