Project

April 23, 2021

0.1 Question 1

[1]:
```
places = ["Seychelles", "Jamaica", "Africa", "Barcelona"]
print (places)
print(sorted(places)) #sorted list
print(places) # list unsorted
```

```
['Seychelles', 'Jamaica', 'Africa', 'Barcelona']
['Africa', 'Barcelona', 'Jamaica', 'Seychelles']
['Seychelles', 'Jamaica', 'Africa', 'Barcelona']
```

[2]:
```
places.reverse()
print(places) #print reversed list
places.reverse() # returns list to original order
print(places)
```

```
['Barcelona', 'Africa', 'Jamaica', 'Seychelles']
['Seychelles', 'Jamaica', 'Africa', 'Barcelona']
```

[3]:
```
places.sort() # sorts list
print(places)
```

```
['Africa', 'Barcelona', 'Jamaica', 'Seychelles']
```

0.2 Question 2

[4]:
```
foods = ("chips", "chicken", "sandwich", "fish")
for food in foods:
    print(food)
```

```
chips
chicken
sandwich
fish
```

[5]:
```
foods[0] = "pasta"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
```

```
<ipython-input-5-cc5a7d22acc7> in <module>
----> 1 foods[0] = "pasta"

TypeError: 'tuple' object does not support item assignment
```

[6]:
```
# revised menu
foods = ("chips", "pork", "sandwich", "lamb")
for food in foods:
    print(food)
```

```
chips
pork
sandwich
lamb
```

0.3 Question 3

[7]:
```
from math import sqrt
a = sqrt(36) # 6
b = sqrt(16) # 4

c = sqrt(a**2-b**2)
print(c)
```

```
4.47213595499958
```

1 SECTION B

1.1 Question 4

[8]:
```
John_age = 20
Harry_age = 22

print ("Is John_age < Harry_age? I would say True!")
print(John_age<Harry_age)

print ("Is John_age == Harry_age? I would say False!")
print(John_age==Harry_age)

numbers_list = [0,1,2,3,4,5]
print ("\nIs numbers_list == [1,2,3,4,5]? I would say False!")
print(numbers_list == [1,2,3,4,5])
print ("Is numbers_list == [0,1,2,3,4,5]? I would say True!")
print(numbers_list == [0,1,2,3,4,5])

my_favourite_fruit = "passionfruit"
print("\nIs my_favourite_fruit == 'apple'? I would say False!")
```

```
print(my_favourite_fruit == 'apple')
print("Is my_favourite_fruit == 'passionfruit'? I would say True!")
print(my_favourite_fruit=='passionfruit')
```

```
Is John_age < Harry_age? I would say True!
True
Is John_age == Harry_age? I would say False!
False

Is numbers_list == [1,2,3,4,5]? I would say False!
False
Is numbers_list == [0,1,2,3,4,5]? I would say True!
True

Is my_favourite_fruit == 'apple'? I would say False!
False
Is my_favourite_fruit == 'passionfruit'? I would say True!
True
```

1.2 Question 5

[9]:
```
numbers_list = [1,2,3,4,5]

print ("Is 3 not in numbers_list ? I would say False!")
print(3 not in numbers_list)
print ("Is 20 not in numbers_list? I would say True!")
print(20 not in numbers_list)

print ("\nIs 2 == 2 ? I would say True!")
print(2==2)
print ("Is 2 > 2 ? I would say False!")
print(2>2)

num = 50
print ("\nIs 45 < num and 60 < num ? I would say False!")
print(45 < num and 60 < num)
print ("Is 45 < num or 60 < num ? I would say True!")
print(45 < num or 60 < num)

name = "Jerry"
print ("\nIs name == 'Jerry' ? I would say True!")
print(name == 'Jerry')
print ("Is name == 'Tom' ? I would say False!")
print(name == 'Tom')
```

```
Is 3 not in numbers_list ? I would say False!
False
```

```
Is 20 not in numbers_list? I would say True!
True

Is 2 == 2 ? I would say True!
True
Is 2 > 2 ? I would say False!
False

Is 45 < num and 60 < num ? I would say False!
False
Is 45 < num or 60 < num ? I would say True!
True

Is name == 'Jerry' ? I would say True!
True
Is name == 'Tom' ? I would say False!
False
```

1.3 Question 6

[10]:
```
# Version 1
baby_colour = 'blue'
if baby_colour == 'blue':
    print('You have a baby boy, Congratlation!')
else:
    print()
# Version 2
baby_colour = 'pink'
if baby_colour == 'blue':
    print('You have a baby boy, Congratlation!')
else:
    print()
```

```
You have a baby boy, Congratlation!
```

1.4 Question 7

[11]:
```
# Version 1
baby_colour = 'pink'
if baby_colour == 'pink':
    print('Congratulations, you have a baby girl!')
elif baby_colour == 'blue':
    print('Congratulations, you have a baby boy!')

print('\n')
# Version 2
```

```
baby_colour = 'blue'
if baby_colour == 'pink':
    print('Congratulations, you have a baby girl!')
elif baby_colour == 'blue':
    print('Congratulations, you have a baby boy!')
```

```
Congratulations, you have a baby girl!


Congratulations, you have a baby boy!
```

[12]:
```
grade = 90
if grade < 50:
    print('You received a F')
elif grade >=50 and grade <55:
    print('You received a C')
elif grade >=55 and grade <60:
    print('You received a C+')
elif grade >=60 and grade <65:
    print('You received a B')
elif grade >=65 and grade <70:
    print('You received a B+')
elif grade >=70 and grade <90:
    print('You received an A')
else:
    print('You received an A+')
```

```
You received an A+
```

1.5 Question 9

[13]:
```
my_favmovies = ['The Dark Knight', 'The Gentlemen', 'Scarface', 'Zombieland']
if 'The Dark Knight' in my_favmovies:
    print("The Dark Knight is a great film")
if 'Zombieland' in my_favmovies:
    print('Zombieland is a fun movie to watch')
if 'Scarface' in my_favmovies:
    print('Scarface is a great classic')
```

```
The Dark Knight is a great film
Zombieland is a fun movie to watch
Scarface is a great classic
```

2 Section C

2.1 Question 10

[14]:
```
friends = ['Creator', 'Sean', 'Jay', 'Makayla', 'Shaq', 'Tom']
for friend in friends:
    if friend == 'Creator':
        print('I am the creator of this app')
    else:
        print('Hello '+friend+', Hope you enjoy the game!')
```

```
I am the creator of this app
Hello Sean, Hope you enjoy the game!
Hello Jay, Hope you enjoy the game!
Hello Makayla, Hope you enjoy the game!
Hello Shaq, Hope you enjoy the game!
Hello Tom, Hope you enjoy the game!
```

2.2 Question 11

[15]:
```
person = {'first_name':'Tom','last_name':'Hicks','age':19,'city':'New York'}
for key, value in person.items():
    print(key+" : "+str(value))
```

```
first_name : Tom
last_name : Hicks
age : 19
city : New York
```

2.3 Question 12

[16]:
```
fav_num_dict = {"Nick":4, "Tom":1,"Jerry":2, "Messi":10, "Jordan":23}
for name, fav_num in fav_num_dict.items():
    print(name+"'s favourite number is "+str(fav_num))
```

```
Nick's favourite number is 4
Tom's favourite number is 1
Jerry's favourite number is 2
Messi's favourite number is 10
Jordan's favourite number is 23
```

2.4 Question 13

[17]:
```
rivers = {'Congo River':'Congo', 'Nile':'Egypt', 'Zhujiang':'China'}
for river, country in rivers.items():
    print('The '+ river +' runs through '+country)
print('\nRivers:')
for river in rivers.keys():
```

```
    print(river)
print('\nCountries:')
for country in rivers.values():
    print(country)
```

```
The Congo River runs through Congo
The Nile runs through Egypt
The Zhujiang runs through China

Rivers:
Congo River
Nile
Zhujiang

Countries:
Congo
Egypt
China
```

2.5 Question 14

[18]:
```
#Guessing question meant 11 instead of 12
person1 = {'first_name':'Tom','last_name':'Hicks','age':19,'city':'New York'}
person2 = {'first_name':'Jermaine','last_name':'Cole','age':35,'city':'Apex'}
person3 = {'first_name':'Kendrick','last_name':'Lamar','age':33,'city':'Los␣
 ↪Angeles'}
people = [person1, person2, person3]
for person in people:
    for key, value in person.items():
        print(key+" : "+str(value))
    print()
```

```
first_name : Tom
last_name : Hicks
age : 19
city : New York

first_name : Jermaine
last_name : Cole
age : 35
city : Apex

first_name : Kendrick
last_name : Lamar
age : 33
city : Los Angeles
```

[0]: