In [126]:
```
print("Le Ngoc Thai Phuong - 18521272")
```

```
Le Ngoc Thai Phuong - 18521272
```

In [3]:
```
print("Hello World")
```

```
Hello World
```

In [4]:
```
1+1
```

Out[4]: 2

In [6]:
```
1*3
```

Out[6]: 3

In [7]:
```
1/2
```

Out[7]: 0.5

In [8]:
```
2**4
```

Out[8]: 16

In [9]:
```
4 % 2
```

Out[9]: 0

In [10]:
```
5 % 2
```

Out[10]: 1

In [14]:
```
(2 + 3) * (5 + 5)
```

Out[14]: 50

In [2]:
```
# can not start with number or special characters
name_of_var = 2
```

In [3]:
```
x = 2
y = 3
```

In [4]:
```
z = x + y
```

In [5]:
```
z
```

Out[5]: 5

In [6]:
```
'single quotes'
```

Out[6]:
```
'single quotes'
```

In [7]:
```
'double quotes'
```

Out[7]:
```
'double quotes'
```

In [8]:
```
"wrap lot's of other quotes"
```

Out[8]:
```
"wrap lot's of other quotes"
```

In [9]:
```
x = 'hello'
```

In [10]:
```
x
```

Out[10]:
```
'hello'
```

In [11]:
```
print(x)
```

```
hello
```

In [12]:
```
num = 12
name ='Sam'
```

In [15]:
```
print('My number is {one}, and my name is: {two}'.format(one=12, two = 'Sam'))
```

```
My number is 12, and my name is: Sam
```

In [17]:
```
print('My number is {}, and my name is: {}'.format(num,name))
```

```
My number is 12, and my name is: Sam
```

In [18]:
```
[1,2,3]
```

Out[18]:
```
[1, 2, 3]
```

In [19]:
```
['hi', 1, [1,2]]
```

Out[19]:
```
['hi', 1, [1, 2]]
```

In [20]:
```
my_list = ['a','b','c']
```

In [21]:
```
my_list.append('d')
```

In [22]:
```
my_list
```

Out[22]:
```
['a', 'b', 'c', 'd']
```

In [23]:
```
my_list[0]
```
Out[23]:
```
'a'
```

In [24]:
```
my_list[1]
```
Out[24]:
```
'b'
```

In [26]:
```
my_list[1:]
```
Out[26]:
```
['b', 'c', 'd']
```

In [27]:
```
my_list[:1]
```
Out[27]:
```
['a']
```

In [28]:
```
my_list[0] = 'NEW'
```

In [29]:
```
my_list
```
Out[29]:
```
['NEW', 'b', 'c', 'd']
```

In [31]:
```
nest = [1,2,3,[4,5,["target"]]]
```

In [32]:
```
nest[3]
```
Out[32]:
```
[4, 5, ['target']]
```

In [33]:
```
nest[3][2]
```
Out[33]:
```
['target']
```

In [34]:
```
nest[3][2][0]
```
Out[34]:
```
'target'
```

In [35]:
```
d = {'key1': 'item1', 'key2': 'item2'}
```

In [36]:
```
d['key1']
```
Out[36]:
```
'item1'
```

In [37]:
```
True
```
Out[37]:
```
True
```

In [38]:
```
False
```
Out[38]:
```
False
```

In [39]:
```
t = (1,2,3)
```

In [40]:
```
t[0]
```

Out[40]:
```
1
```

In [41]:
```
t[0] = 'NEW'
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp\ipykernel_10128\2140988817.py in <module>
----> 1 t[0] = 'NEW'

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

In [42]:
```
{1,2,3}
```

Out[42]:
```
{1, 2, 3}
```

In [43]:
```
{1,2,3,1,2,1,2,3,3,3,3,2,2,1,1,2}
```

Out[43]:
```
{1, 2, 3}
```

In [44]:
```
1 > 2
```

Out[44]:
```
False
```

In [46]:
```
1 < 2
```

Out[46]:
```
True
```

In [47]:
```
1 >= 1
```

Out[47]:
```
True
```

In [48]:
```
1 <= 4
```

Out[48]:
```
True
```

In [49]:
```
1 == 1
```

Out[49]:
```
True
```

In [50]:
```
'hi' == 'bye'
```

Out[50]:
```
False
```

In [51]:
```
(1 > 2) and (2 < 3)
```

Out[51]:
```
False
```

In [52]:
```
(1 > 2) or (2 < 3)
```

Out[52]:
```
True
```

In [53]:
```
(1 == 2) or (2 == 3) or (4 == 4)
```

Out[53]:
```
True
```

In [54]:
```
if 1 < 2:
    print('Yep!')
```

```
Yep!
```

In [58]:
```
if 1 < 2:
    print('yep!')
```

```
yep!
```

In [59]:
```
if 1 < 2:
    print('first')
else:
    print('last')
```

```
first
```

In [60]:
```
if 1 > 2:
    print('first')
else:
    print('last')
```

```
last
```

In [62]:
```
if 1 == 2:
    print('first')
elif 3 == 3:
    print('middle')
else:
    print('Last')
```

```
middle
```

In [63]:
```
seq = [1,2,3,4,5]
```

In [64]:
```
for item in seq:
    print(item)
```

```
1
2
3
4
5
```

In [65]:
```
for item in seq:
    print('Yep')
```

```
Yep
Yep
Yep
Yep
Yep
```

In [66]:
```
for jelly in seq:
    print(jelly+jelly)
```

```
2
4
6
8
10
```

In [67]:
```
i = 1
while i < 5:
    print('i is: {}'.format(i))
    i = i+1
```

```
i is: 1
i is: 2
i is: 3
i is: 4
```

In [68]:
```
range(5)
```

Out[68]:
```
range(0, 5)
```

In [69]:
```
for i in range(5):
    print(i)
```

```
0
1
2
3
4
```

In [70]:
```
list(range(5))
```

Out[70]:
```
[0, 1, 2, 3, 4]
```

In [71]:
```
x = [1,2,3,4]
```

In [72]:
```
out = []
for item in x:
    out.append(item**2)
print(out)
```

```
[1, 4, 9, 16]
```

In [73]:
```
[item**2 for item in x]
```

Out[73]:
```
[1, 4, 9, 16]
```

In [75]:
```
def my_func(param1='default'):
    """
    Docstring goes here.
    """
    print(param1)
```

In [76]:
```
my_func
```

Out[76]:
```
<function __main__.my_func(param1='default')>
```

In [77]:
```
my_func()
```

```
default
```

In [78]:
```
my_func('new param')
```

```
new param
```

In [79]:
```
my_func(param1='new param')
```

```
new param
```

In [80]:
```
def square(x):
    return x**2
```

In [81]:
```
out = square(2)
```

In [82]:
```
print(out)
```

```
4
```

In [83]:
```
def time2(var):
    return var*2
```

In [84]:
```
time2(2)
```

Out[84]:
```
4
```

In [85]:
```
lambda var: var*2
```

Out[85]:
```
<function __main__.<lambda>(var)>
```

In [86]:
```
seq = [1,2,3,4,5]
```

In [103]:
```
def times2(x):
    return 2*x
```

In [104]:
```
map(times2,seq)
```

Out[104]: <map at 0x20bbabcc400>

In [105]:
```
list(map(times2,seq))
```

Out[105]: [2, 4, 6, 8, 10]

In [106]:
```
list(map(lambda var: var*2,seq))
```

Out[106]: [2, 4, 6, 8, 10]

In [107]:
```
filter(lambda item: item%2 == 0,seq)
```

Out[107]: <filter at 0x20bbabcc6a0>

In [108]:
```
list(filter(lambda item: item%2 == 0,seq))
```

Out[108]: [2, 4]

In [109]:
```
st = 'hello my name is Sam'
```

In [110]:
```
st.lower()
```

Out[110]: 'hello my name is sam'

In [111]:
```
st.upper()
```

Out[111]: 'HELLO MY NAME IS SAM'

In [112]:
```
st.split()
```

Out[112]: ['hello', 'my', 'name', 'is', 'Sam']

In [113]:
```
tweet = 'Go Sports! #Sports'
```

In [114]:
```
tweet.split('#')
```

Out[114]: ['Go Sports! ', 'Sports']

In [115]:
```
tweet.split('#')[1]
```

Out[115]: 'Sports'

In [116]:
```
d
```

Out[116]: {'key1': 'item1', 'key2': 'item2'}

In [117]:
```
d.keys()
```

Out[117]:
```
dict_keys(['key1', 'key2'])
```

In [118]:
```
d.items()
```

Out[118]:
```
dict_items([('key1', 'item1'), ('key2', 'item2')])
```

In [121]:
```
lst = [1,2,3]
```

In [122]:
```
lst.pop()
```

Out[122]:
```
3
```

In [123]:
```
lst
```

Out[123]:
```
[1, 2]
```

In [124]:
```
'x' in [1,2,3]
```

Out[124]:
```
False
```

In [125]:
```
'x' in ['x', 'y', 'z']
```

Out[125]:
```
True
```

In [ ]:
```

```