learning indexing with ammar

array indexing

In [3]:
```
a = "Iqra Iqbal"
a
```

Out[3]:
```
'Iqra Iqbal'
```

In [4]:
```
a
```

Out[4]:
```
'Iqra Iqbal'
```

In [5]:
```
a[0]
```

Out[5]:
```
'I'
```

In [6]:
```
a[0:5]
```

Out[6]:
```
'Iqra '
```

In [7]:
```
len(a)
```

Out[7]:
```
10
```

In [8]:
```
a[-10:-6]
```

Out[8]:
```
'Iqra'
```

In [9]:
```
a[5:9]
```

Out[9]:
```
'Iqba'
```

In [10]:
```
a[-6:-9]
```

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

In [11]:
```
a[-5:-2]
```

Out[11]:
```
'Iqb'
```

In [12]:
```
a[-5]
```

Out[12]:
```
'I'
```

In [13]:
```
a[-6]
```

Out[13]:
```
' '
```

In [14]:
```
a[-1:-4]
```

Out[14]:
```
''
```

In [15]:
```
a[-4:-1]
```

Out[15]:
```
'qba'
```

In [16]:
```
a[-5:-0]
```

Out[16]:
```
''
```

In [17]:
```
a[-5:10]
```

Out[17]:
```
'Iqbal'
```

string methods

In [9]:
```
a= "brownies"
a
```

Out[9]:
```
'brownies'
```

In [10]:
```
a.upper()
```

Out[10]:
```
'BROWNIES'
```

In [11]:
```
# to count how many times the string occur
a.count("iqra")
```

Out[11]:
```
0
```

In [15]:
```
a="iqra iqbal"
a
```

Out[15]:
```
'iqra iqbal'
```

In [18]:
```
a.count("q")
```

Out[18]:
```
2
```

In [19]:
```
a.replace("i","e")
```

Out[19]:
```
'eqra eqbal'
```

In [20]:
```
name="Muhammad Omer"
name.count("m")
```

Out[20]:
```
3
```

In [21]:
```
name.find("d")
```

Out[21]:
```
7
```

In [22]:
```
name.split("m")
```

Out[22]:
```
['Muha', '', 'ad O', 'er']
```

- Data structures

tuple

In [87]:
```
tup1=(6.7, 8,8,8, "iqra", False)
tup1
```

Out[87]:
```
(6.7, 8, 8, 8, 'iqra', False)
```

In [88]:
```
tup1.index(3)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/1632497629.py in <module>
----> 1 tup1.index(3)

ValueError: tuple.index(x): x not in tuple
```

In [90]:
```
tup1.index(8)
```

Out[90]:
```
1
```

In [89]:
```
tup1.count(8)
```

Out[89]:
```
3
```

In [26]:
```
len(tup1)
```

Out[26]:
```
4
```

In [27]:
```
min(tup1)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/3296974942.py in <module>
----> 1 min(tup1)

TypeError: '<' not supported between instances of 'str' and 'float'
```

In [32]:
```
tup2=(20.10,70)
min(tup2)
```

Out[32]:
```
20.1
```

In [33]:
```
tup1+tup2
```

Out[33]:
```
(6.7, 8, 'iqra', False, 20.1, 70)
```

In [41]:
```
tup1*tup2
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/2388975679.py in <module>
----> 1 tup1*tup2

TypeError: can't multiply sequence by non-int of type 'tuple'
```

In [42]:
```
tup2*2
```

Out[42]:
```
(20.1, 70, 20.1, 70)
```

In [35]:
```
type(tup1)
```

Out[35]:
```
tuple
```

-list

In [63]:
```
list1=[3, 4, 5, 6, "program"]
list1
```

Out[63]:
```
[3, 4, 5, 6, 'program']
```

In [38]:
```
list2= [6,5,4]
list2
```

Out[38]:
```
[6, 5, 4]
```

In [39]:
```
list1+list2
```

Out[39]:
```
[3, 4, 5, 6, 6, 5, 4]
```

In [43]:
```
list1*list2
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/1489627634.py in <module>
----> 1 list1*list2

TypeError: can't multiply sequence by non-int of type 'list'
```

In [44]:
```
list1*2
```

Out[44]:
```
[3, 4, 5, 6, 3, 4, 5, 6]
```

In [64]:
```
list1.extend("program")
list1
```

Out[64]:
```
[3, 4, 5, 6, 'program', 'p', 'r', 'o', 'g', 'r', 'a', 'm']
```

In [54]:
```
list1.reverse()
list1
```

Out[54]:
```
['m', 'a', 'r', 'g', 'o', 'r', 'p', 6, 5, 4, 3]
```

In [56]:
```
list2.count(5)
```

Out[56]:
```
1
```

In [60]:
```
list2.sort()
list2
```

Out[60]:
```
[4, 5, 6]
```

In [61]:
```
list2.reverse()
list2
```

Out[61]:
```
[6, 5, 4]
```

In [62]:
```
list2.extend("iqra")
list2
```

Out[62]:
```
[6, 5, 4, 'i', 'q', 'r', 'a']
```

In [67]:
```
list3=["iqra", "omer", 2]
list3
```

Out[67]:
```
['iqra', 'omer', 2]
```

In [83]:
```
list4=["just"]
list4["check"]=67
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/3391929988.py in <module>
      1 list4=["just"]
----> 2 list4["check"]=67

TypeError: list indices must be integers or slices, not str
```

In [70]:
```
list3.extend("afaq")
list3
```

Out[70]:
```
['iqra', 'omer', 2, 'a', 'f', 'a', 'q', 'a', 'f', 'a', 'q']
```

In [69]:
```
list3.extend(hina)
list3
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/570706245.py in <module>
----> 1 list3.extend(hina)
      2 list3

NameError: name 'hina' is not defined
```

In [71]:
```
list3.extend(["afaq"])
list3
```

Out[71]:
```
['iqra', 'omer', 2, 'a', 'f', 'a', 'q', 'a', 'f', 'a', 'q', 'afaq']
```

In [72]:
```
x=['afaq']
list3.extend([x])
list3
```

Out[72]:
```
['iqra', 'omer', 2, 'a', 'f', 'a', 'q', 'a', 'f', 'a', 'q', 'afaq', ['afaq']]
```

In [73]:
```
list3.extend('yumna')
list3
```

Out[73]:
```
['iqra',
 'omer',
 2,
```

```
'a',
'f',
'a',
'q',
'a',
'f',
'a',
'q',
'afaq',
['afaq'],
'y',
'u',
'm',
'n',
'a']
```

In [74]:
```
dict={"shirt": 3000, "trousers": 2000, "dupatta" : 2500, "shoes": 3500}
dict
```

Out[74]:
```
{'shirt': 3000, 'trousers': 2000, 'dupatta': 2500, 'shoes': 3500}
```

In [75]:
```
type(dict)
```

Out[75]:
```
dict
```

In [76]:
```
dict.values()
```

Out[76]:
```
dict_values([3000, 2000, 2500, 3500])
```

In [77]:
```
dict.keys()
```

Out[77]:
```
dict_keys(['shirt', 'trousers', 'dupatta', 'shoes'])
```

In [79]:
```
dict.update("bag" : 4500)
```

```
  File "C:\Users\Umar\AppData\Local\Temp/ipykernel_20220/2372963503.py", line 1
    dict.update("bag" : 4500)
                      ^
SyntaxError: invalid syntax
```

In [80]:
```
dict.update(tup1)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/4214468061.py in <module>
----> 1 dict.update(tup1)

TypeError: cannot convert dictionary update sequence element #0 to a sequence
```

In [81]:
```
dict["bag"]=4500
dict
```

Out[81]:
```
{'shirt': 3000, 'trousers': 2000, 'dupatta': 2500, 'shoes': 3500, 'bag': 4500}
```

In [91]:
```
dict2={"jacket":6000, "hoodie": 4000}
dict2
```

Out[91]:
```
{'jacket': 6000, 'hoodie': 4000}
```

In [93]:
```
dict+dict2
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_20220/810542155.py in <module>
----> 1 dict+dict2

TypeError: unsupported operand type(s) for +: 'dict' and 'dict'
```

In [95]:
```
dict.update(dict2)
dict
```

Out[95]:
```
{'shirt': 3000,
 'trousers': 2000,
 'dupatta': 2500,
 'shoes': 3500,
 'bag': 4500,
 'jacket': 6000,
 'hoodie': 4000}
```

In [6]:
```
set1={17,90,"ahmad", "asif", 78}
set1
```

Out[6]:
```
{17, 78, 90, 'ahmad', 'asif'}
```

In [7]:
```
set1.add("kamal")
set1
```

Out[7]:
```
{17, 78, 90, 'ahmad', 'asif', 'kamal'}
```

In [8]:
```
set1.clear("kamal")
set1b
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_7704/3711454853.py in <module>
----> 1 set1.clear("kamal")
      2 set1b

TypeError: set.clear() takes no arguments (1 given)
```

In [ ]:
```
set1.copy()
```

In [ ]:

```
set1.difference()
```

In [10]:
```
set2={"raza", "murtaza", 2,5}
set2
```

Out[10]:
```
{2, 5, 'murtaza', 'raza'}
```

In [11]:
```
# set1-set2
set1.difference(set2)
```

Out[11]:
```
{17, 78, 90, 'ahmad', 'asif', 'kamal'}
```

In [16]:
```
# same as difference just we have to separately print the result
set1.difference_update(set2)
set1
```

Out[16]:
```
{17, 78, 90, 'ahmad', 'asif', 'kamal'}
```

In [18]:
```
set2.discard(5)
set2
```

Out[18]:
```
{2, 'murtaza', 'raza'}
```

In [21]:
```
#set2.clear()
set2
```

Out[21]:
```
set()
```

In [27]:
```
set1.remove(17)
set1
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
~\AppData\Local\Temp/ipykernel_7704/1087518887.py in <module>
----> 1 set1.remove(17)
      2 set1

KeyError: 17
```