Python

In [1]:
```
a=2
b=2
print(a+b)
```

```
4
```

In [2]:
```
print(50-5*6)
```

```
20
```

In [3]:
```
print(8/5)
```

```
1.6
```

In [4]:
```
print(17/3)
print(17//3)
print(17%3)
print(5*3+2)
```

```
5.666666666666667
5
2
17
```

In [5]:
```
print(5**2)
print(2**7)
```

```
25
128
```

In [6]:
```
tax=12.1/100
price=100
price*tax
```

Out[6]: 12.1

In [7]:
```
price+_
```

Out[7]: 112.1

In [8]:
```
round(_,2)
```

Out[8]: 112.1

Text

In [9]:
```
"paris rabbit got your back :)!  Yay!"  #double quotes
```

Out[9]: 'paris rabbit got your back :)!  Yay!'

In [10]:
```
'1975' #digits and numerals enclosed in quotes are also strings
```

Out[10]: '1975'

In [11]:
```
'doesn\'t' #use \' to escape the single quote..
```

Out[11]: "doesn't"

In [12]:
```
print('C:\some\n ame') #here \n means new line
```

```
C:\some
 ame
```

In [13]:
```
3* 'un'+'ium'
```

Out[13]: 'unununium'

In [14]:
```
'py' 'thon'
```

Out[14]: 'python'

In [15]:
```
word='python'
```

In [16]:
```
word[0]
```

Out[16]: 'p'

In [17]:
```
word[-1]
```

Out[17]: 'n'

In [18]:
```
word[0:2]
```

Out[18]: 'py'

In [19]:
```
word[4:]
```

Out[19]: 'on'

In [20]:
```
word[:2]+word[2:]
```

Out[20]: 'python'

In [21]:
```
word[:4]+word[4:]
```

Out[21]: 'python'

In [22]:
```
word[4:42]
```

Out[22]: 'on'

In [24]:
```
'j'+word[1:]
```

Out[24]: 'jython'

In [25]:
```
s='bsdeflkju'
len(s)
```

Out[25]: 9

Lists

In [26]:
```
squares=[1,4,9,16,25,36]
```

In [27]:
```
squares[0]
```

Out[27]: 1

In [28]:
```
squares[5]
```

Out[28]: 36

In [29]:
```
squares[1:4]
```

Out[29]: [4, 9, 16]

Concatenation

In [30]:
```
squares+[49,64,81]
```

Out[30]: [1, 4, 9, 16, 25, 36, 49, 64, 81]

In [31]:
```
cubes=[1,8,27,65]
```

In [32]:
```
cubes[3]
```

Out[32]: 65

In [33]:
```
cubes
```

Out[33]: [1, 8, 27, 65]

In [34]:
```
cubes.append(125)
cubes.append(216)
```

In [35]:
```
cubes
```

Out[35]: [1, 8, 27, 65, 125, 216]

In [36]:
```
rgb=['red','green','yellow']
```

In [37]:
```
rgba=rgb
```

In [38]:
```
rgba
```

Out[38]: ['red', 'green', 'yellow']

In [39]:
```
rgba.append('orange')
```

In [40]:
```
print(rgb)
print(rgba)
```

```
['red', 'green', 'yellow', 'orange']
['red', 'green', 'yellow', 'orange']
```

In [42]:
```
rgba==rgb
```

Out[42]: True

In [43]:
```
letter=['a','b','c','d','e','f']
```

In [50]:
```
letter[0:3]=['c','d','e']
```

In [49]:
```
letter
```

Out[49]: ['c', 'd', 'e', 'd', 'e', 'f']

In [51]:
```
letter.clear()
```

In [52]:
```
letter
```

Out[52]: []

In [53]:
```
a=[['r','a','j'],267]
print(a[0][0])
print(a[0][1])
print(a[0][2])
```

```
r
a
j
```

append

In [54]:
```
letter=['a','b','c','d','e','f']
```

In [55]:
```
letter.append('g')
```

In [56]:
```
letter
```

Out[56]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

Extend

In [57]:
```
letter1=[]
```

In [58]:
```
letter1.extend(letter)
```

In [59]:
```
letter1
```

Out[59]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

Insert

In [60]:
```
letter
```

Out[60]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

In [62]:
```
letter.insert(0,'h')
```

In [63]:
```
letter
```

Out[63]: ['h', 'n', 'a', 'b', 'c', 'd', 'e', 'f', 'g']

In [64]:
```
letter.remove('n')
```

In [65]:
```
letter
```

Out[65]: ['h', 'a', 'b', 'c', 'd', 'e', 'f', 'g']

In [66]:
```
letter.pop()
```

Out[66]: 'g'

In [67]:
```
letter.pop(1)
```

Out[67]: 'a'

Clear

In [68]:
```
letter.clear()
```

In [69]:
```
letter
```

Out[69]: []

Index

In [70]:
```
letter1
```

Out[70]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

In [71]:
```
letter1.index('d')
```

Out[71]: 3

Count

In [72]:
```
letter1
```

Out[72]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

In [73]:
```
letter1.count('d')
```

Out[73]: 1

Sort

In [74]:
```
letter1.sort()
```

In [76]:
```
letter1
```

Out[76]: ['a', 'b', 'c', 'd', 'e', 'f', 'g']

In [77]:
```
letter1.sort(reverse=True)
```

In [78]:
```
letter1
```

Out[78]:
```
['g', 'f', 'e', 'd', 'c', 'b', 'a']
```

Reverse

In [79]:
```
letter1.reverse()
```

In [80]:
```
letter1
```

Out[80]:
```
['a', 'b', 'c', 'd', 'e', 'f', 'g']
```

copy

In [81]:
```
letter2=letter1.copy()
```

In [82]:
```
letter2
```

Out[82]:
```
['a', 'b', 'c', 'd', 'e', 'f', 'g']
```

TUPLES

In [83]:
```
t=()
```

In [84]:
```
type(t)
```

Out[84]:
```
tuple
```

In [85]:
```
len(t)
```

Out[85]:
```
0
```

In [86]:
```
t=(1,2,3,4)
```

In [87]:
```
t.count(2)
```

Out[87]:
```
1
```

In [88]:
```
t.index(2)
```

Out[88]:
```
1
```

In [89]:
```
t.count(4)
```

Out[89]:
```
1
```

In [90]:
```
t.index(4)
```

Out[90]:
```
3
```

Sets

In [91]:
```
a={}
```

In [93]:
```
type(a)
```

Out[93]:
```
dict
```

In [94]:
```
a=set()
type(a)
```

Out[94]:
```
set
```

In [95]:
```
a={1,2,3,48,99,32,32}
```

In [96]:
```
a
```

Out[96]:
```
{1, 2, 3, 32, 48, 99}
```

In [97]:
```
a.add(9)
```

In [98]:
```
a
```

Out[98]:
```
{1, 2, 3, 9, 32, 48, 99}
```

In [99]:
```
a.clear()
```

In [100…
```
a
```

Out[100…
```
set()
```

In [101…
```
b={'one','two','three','four'}
```

In [102…
```
c=b.copy()
```

In [103…
```
c
```

Out[103…
```
{'four', 'one', 'three', 'two'}
```

In [104…
```
print(id(b))
print(id(c))
```

```
2062047711904
2062047712128
```

In [105…
```
b
```

Out[105…
```
{'four', 'one', 'three', 'two'}
```

In [106…
```
b.pop()
```

Out[106…
```
'four'
```

In [114…
```
d={1,2,3,4}
```

In [115…
```
d.remove(1)
```

In [116…
```
d
```

Out[116… {2, 3, 4}

In [117…
```
d.update('5')
```

In [118…
```
d
```

Out[118… {2, 3, 4, '5'}

In [119…
```
d.discard('5')
```

In [120…
```
d
```

Out[120… {2, 3, 4}

Set operaions

In [121…
```
a={1,2,3,4,5}
b={4,5,6,7,8}
c={8,9,10,11}
```

In [122…
```
a|b
```

Out[122… {1, 2, 3, 4, 5, 6, 7, 8}

In [123…
```
a|b|c
```

Out[123… {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11}

intersection

In [124…
```
a&b
```

Out[124… {4, 5}

In [126…
```
b&c
```

Out[126… {8}

In [127…
```
a-b
```

Out[127… {1, 2, 3}

In [128…
```
a-b-c
```

Out[128… {1, 2, 3}

In [129…
```
b-c
```

Out[129… {4, 5, 6, 7}

symmetric differnece

In [131…
```
a1={1,2,3,4,5,6,7,8,9}
a2={3,4,5,6,7,8}
```

```
a3={10,20,30,40,50}
```

In [132…
```
a1.issuperset(a2)
```

Out[132…
```
True
```

In [134…
```
a2.issubset(a1)
```

Out[134…
```
True
```

In [135…
```
a3.isdisjoint(a2)
```

Out[135…
```
True
```

Dictionary

In [136…
```
mydict={}
type(mydict)
```

Out[136…
```
dict
```

In [137…
```
mydict=dict({1:'one',2:'two',3:'three'})
```

In [138…
```
mydict.keys()
```

Out[138…
```
dict_keys([1, 2, 3])
```

In [139…
```
mydict.values()
```

Out[139…
```
dict_values(['one', 'two', 'three'])
```

In [140…
```
mydict.items()
```

Out[140…
```
dict_items([(1, 'one'), (2, 'two'), (3, 'three')])
```

In [141…
```
keys={1,2,3,4}
mydict1=dict.fromkeys(keys)
```

In [142…
```
mydict1
```

Out[142…
```
{1: None, 2: None, 3: None, 4: None}
```

In [144…
```
keys={'a','b','c','d'}
value={'one','two','three','four'}
mydict2=dict.fromkeys(keys,value)
```

In [145…
```
mydict2
```

Out[145…
```
{'a': {'four', 'one', 'three', 'two'},
 'b': {'four', 'one', 'three', 'two'},
 'c': {'four', 'one', 'three', 'two'},
 'd': {'four', 'one', 'three', 'two'}}
```

append

In [146…
```
mydict2
```

Out[146…
```
{'a': {'four', 'one', 'three', 'two'},
 'b': {'four', 'one', 'three', 'two'},
 'c': {'four', 'one', 'three', 'two'},
 'd': {'four', 'one', 'three', 'two'}}
```

In [147…
```
type(mydict2)
```

Out[147…
```
dict
```

In [148…
```
mydict
```

Out[148…
```
{1: 'one', 2: 'two', 3: 'three'}
```

In [149…
```
mydict[2]
```

Out[149…
```
'two'
```

In [150…
```
mydict[1]
```

Out[150…
```
'one'
```

In [151…
```
mydict.get(3)
```

Out[151…
```
'three'
```

In [152…
```
mydict
```

Out[152…
```
{1: 'one', 2: 'two', 3: 'three'}
```

In [153…
```
mydict3={'Name':'anil','ID':78,'DOB':2003,'JOB':'analyst'}
```

In [154…
```
mydict3
```

Out[154…
```
{'Name': 'anil', 'ID': 78, 'DOB': 2003, 'JOB': 'analyst'}
```

In [156…
```
dict1={'DOB':1998}
mydict3.update(dict1)
mydict3
```

Out[156…
```
{'Name': 'anil', 'ID': 78, 'DOB': 1998, 'JOB': 'analyst'}
```

In [158…
```
dict1={'address':'Berhampur'}
mydict3.update(dict1)
mydict3
```

Out[158…
```
{'Name': 'anil',
 'ID': 78,
 'DOB': 1998,
 'JOB': 'analyst',
 'address': 'Berhampur'}
```

In [159…
```
mydict
```

Out[159…
```
{1: 'one', 2: 'two', 3: 'three'}
```

In [161…
```
mydict.pop(1)
```

Out[161…
```
'one'
```

In [162…
```
mydict.popitem()
```

Out[162…
```
(3, 'three')
```

In [163…
```
mydict.clear()
```

In [165…
```
mydict
```

Out[165…
```
{}
```

In [166…
```
del mydict
```

In [168…
```
mydict4=mydict3.copy()
```

In [169…
```
mydict4
```

Out[169…
```
{'Name': 'anil',
 'ID': 78,
 'DOB': 1998,
 'JOB': 'analyst',
 'address': 'Berhampur'}
```

In [170…
```
print(id(mydict3))
print(id(mydict4))
```

```
2062033288320
2062038792384
```

In [171…
```
mydict5=mydict3
```

In [172…
```
mydict5
```

Out[172…
```
{'Name': 'anil',
 'ID': 78,
 'DOB': 1998,
 'JOB': 'analyst',
 'address': 'Berhampur'}
```

print(id(mydict3)) print(id(mydict5))

In [176…
```
for i in mydict3:
    print(i,':',mydict3[i])
```

```
Name : anil
ID : 78
DOB : 1998
JOB : analyst
address : Berhampur
```

In [177…
```
for i in enumerate(mydict3):
    print(i)
```

```
(0, 'Name')
(1, 'ID')
(2, 'DOB')
(3, 'JOB')
(4, 'address')
```

In [178…
```
mydict3
```

Out[178…
```
{'Name': 'anil',
 'ID': 78,
 'DOB': 1998,
 'JOB': 'analyst',
 'address': 'Berhampur'}
```

In [179…
```
all(mydict3)
```

Out[179… True

In [180…
```
any(mydict3)
```

Out[180… True

Range

In [183…
```
range(10,56)
```

Out[183… range(10, 56)

In [184…
```
range(10,50,5)
```

Out[184… range(10, 50, 5)

In [185…
```
r=range(10,50,5)
list(r)
```

Out[185… [10, 15, 20, 25, 30, 35, 40, 45]

In [186…
```
for i in r:
    print(i)
```

```
10
15
20
25
30
35
40
45
```

In [ ]: