In [1]:
```
mylist = [1,2,3]
```

In [3]:
```
for num in range(10): #all the way upto but not incude 10
    print(num)
```

```
0
1
2
3
4
5
6
7
8
9
```

In [4]:
```
for num in range(3,10): #all the way upto but not incude 10
    print(num)
```

```
3
4
5
6
7
8
9
```

In [6]:
```
for num in range(0,10,2): #all the way upto but not incude 10 also include step size
    print(num)
```

```
0
2
4
6
8
```

In [7]:
```
range(0,10,2)
```

Out[7]:
```
range(0, 10, 2)
```

In [8]:
```
list(range(0,10,2))
```

Out[8]:
```
[0, 2, 4, 6, 8]
```

In [9]:
```
index_count = 0

for letter in 'abcde':
    print('At index {} the letter is {}'.format(index_count,letter))
    index_count += 1
```

```
At index 0 the letter is a
At index 1 the letter is b
At index 2 the letter is c
At index 3 the letter is d
At index 4 the letter is e
```

In [11]:
```
index_count = 0
word = 'abcde'

for letter in enumerate(word):

    print(word[index_count])
    index_count += 1
```

```
a
b
c
d
e
```

In [13]:
```
word = 'abcde'

for item in enumerate(word):
    print(item)
```

```
(0, 'a')
(1, 'b')
(2, 'c')
(3, 'd')
(4, 'e')
```

In [16]:
```
#tuple unpacking

word = 'abcde'

for index,letter in enumerate(word):
    print(index)
    print(letter)
    print('\n')
```

```
0
a


1
b


2
c


3
d


4
e
```

In [17]:
```
mylist1 = [1,2,3]
mylist2 = ['a','b','c']
```

In [18]:
```
zip(mylist1,mylist2)
```

Out[18]:
```
<zip at 0x1d50de1c3c0>
```

In [19]:
```
for item in zip(mylist1,mylist2):
    print(item)
```

```
(1, 'a')
(2, 'b')
(3, 'c')
```

In [20]:
```
mylist1 = [1,2,3,4,5,6]
mylist2 = ['a','b','c']
mylist3 = [110,220,330]
```

In [23]:
```
for item in zip(mylist1,mylist2,mylist3):#which is the shortest list
    print(item)
```

```
(1, 'a', 110)
(2, 'b', 220)
(3, 'c', 330)
```

In [24]:
```
list(zip(mylist1,mylist2))
```

Out[24]:
```
[(1, 'a'), (2, 'b'), (3, 'c')]
```

In [27]:
```
#unpacking

for a,b,c in zip(mylist1,mylist2,mylist3):
    print(b)
```

```
a
b
c
```

In [28]:
```
'x' in [1,2,3]
```

Out[28]:
```
False
```

In [29]:
```
'x' in ['x','y','z']
```

Out[29]:
```
True
```

In [30]:
```
2 in [1,2,3]
```

Out[30]:
```
True
```

In [31]:
```
'a' in 'a word'
```

Out[31]:
```
True
```

In [32]:
```
'mykey' in {'mykey':345}
```

Out[32]:
```
True
```

In [33]:
```
3 in {'mykey':345}
```

Out[33]:
```
False
```

In [34]:
```
345 in {'mykey':345}
```

Out[34]:
```
False
```

In [36]:
```
d ={'mykey':345}

345 in d.values()
```

Out[36]:
```
True
```

In [37]:
```
d ={'mykey':345}

345 in d.keys()
```

Out[37]:
```
False
```

In [38]:
```
mylist = [10,20,30,40,100]
```

In [39]:
```
min(mylist)
```

Out[39]:
```
10
```

In [40]:
```
max(mylist)
```

Out[40]:
```
100
```

In [41]:
```
from random import shuffle
```

In [54]:
```
mylist = [1,2,3,4,5,6,7,8,9,10]
```

In [55]:
```
shuffle(mylist)
```

In [56]:
```
mylist
```

Out[56]:
```
[3, 2, 4, 8, 10, 1, 9, 6, 7, 5]
```

In [57]:
```
random_list = shuffle(mylist)
```

In [58]:
```
type(random_list)
```

Out[58]:
```
NoneType
```

In [59]:
```
mylist
```

Out[59]:
```
[2, 9, 1, 8, 5, 4, 7, 10, 6, 3]
```

In [60]:
```
from random import randint
```

In [61]:
```
randint(0,100)
```

Out[61]:
```
3
```

In [62]:
```
randint(0,100)
```

Out[62]:
```
32
```

In [63]:
```
mynum = randint(0,10)
```

In [64]:
```
mynum
```

Out[64]:
```
1
```

In [67]:
```
input('enter a number here: ')
```

```
enter a number here: 4
```

Out[67]:
```
'4'
```

In [72]:
```
results = input('what is your name? ')
```

```
what is your name? suma
```

In [73]:
```
results
```

Out[73]:
```
'suma'
```

In [74]:
```
result = input('favorite number: ')
```

```
favorite number: 5
```

In [75]:
```
result
```

Out[75]:
```
'5'
```

In [76]:
```
type(result)
```

Out[76]:
```
str
```

In [77]:
```
float(result)
```

Out[77]:
```
5.0
```

In [78]:
```
int(result)
```

Out[78]:
```
5
```

In [80]:
```
result = int(input('enter a number '))
```

```
enter a number 6
```

In [81]:
```
result
```

Out[81]:
```
6
```

In [82]:
```
type(result)
```

Out[82]:
```
int
```

In [ ]:
```
+
```