

Python - Beginner - Session 2

```
def funcname(input):
    }
    return(output)
def Multiply(x,y):
    return(x*y)
a=5
b=3
print(Multiply(a,b))
```

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```
a=[5, 3, 2, 98, 4, 6, 8]
average(a) +/- 2*Std(a)
L=[]
L.append(-)
```

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```
a=[3, 5, 9]
a[1] -> 5
a[2] = 8 -> [3, 5, 8]
Tuple
b = (8, 7, 4)
b[1] -> 7
X b[2] = 9
```

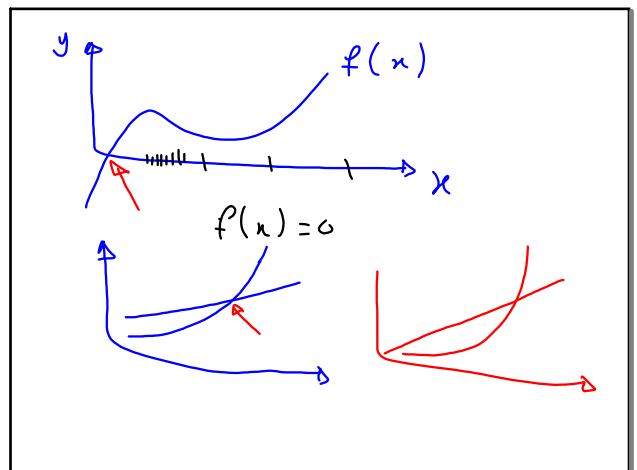
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```
def Descriptives(a)
    M = np.mean(a)
    S = np.std(a)
    Tuple -> R = (M, S)
    return(R)
return((M,S))
(i,j) = Descriptives(a)
Tuple -> i = Descriptives(a)
i[0] -> M i[1] -> S
```

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```
Dictionary
a = { 'key': Value, 'key2': Value2 }
w = { 'Mon': 1, 'Tue': 2, 'Wed': 3 ... }
w['Tue'] -> 2
w['Sat'] = 6
w.keys
```

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Python - Beginner - Session 2

```
def f(x)
    return(x**3 - 10)
```

$y=f(x)$

np.sign(x) = $\begin{cases} 1 & x > 0 \\ 0 & x = 0 \\ -1 & x < 0 \end{cases}$

Nov 28-15:55

```
for i in range(0,5):
    print(i)
```

Continue jump to the top of loop
break jump out of the loop

```
for i in range(5)
    if (i==3):
        continue/break
    print(i)
```

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```
i = 0
while (i < 3):
    print(i)
    i = i + 1
```

```
i = 0
while (True):
    print(i)
    i = i + 1
    if (i == 3):
        break
```

while (True):
{
if (-)
break

Nov 28-16:05

Toolboxes

- numpy
- scipy
- matplotlib

```
(import numpy as np
 np.sign(-)
 from numpy import *
 sign(-)
```

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Save it to MyToolbox

```
def _____
{
}

import MyToolbox as mt
mt.

def _____
{
}

...
define upper & lower bound (1 input, 2 outputs)
to clean the list (1 input, 1 output)
```

Nov 28-16:47

```
P = [3, 4, 3, 2, 3, 5, 6, 7, 15, 16, 17, 15, 14]
→ [0, 1, 0, 7, -1, 2, 3, 4, 0, 1, 0, 2, 0, -1]
```

Correction matrix
Location of the jump 9

3 7 7 7 7 7 3 3 15 15 15 15 ...

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[30, 35, 20, 25, 5, 35, 15, 40, 5].
1 1 1 2 2 2 2 3 3

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