

# Untitled1

October 6, 2017

In [1]:  $1 + 2$

Out[1]: 3

In [2]:  $1 + 3.5$

Out[2]: 4.5

In [3]:  $-1 + 2.5$

Out[3]: 1.5

In [4]:  $100 - 45$

Out[4]: 55

In [5]:  $-1.1 + 5$

Out[5]: 3.9

In [6]:  $3 * 2$

Out[6]: 6

In [7]:  $3.5 * 1.5$

Out[7]: 5.25

In [8]:  $3 / 2$

Out[8]: 1.5

In [9]:  $4 / 2$

Out[9]: 2.0

In [10]:  $3 // 2$

Out[10]: 1

In [11]:  $-3 // 2$

```
Out[11]: -2

In [12]: 9%2

Out[12]: 1

In [13]: 2**2

Out[13]: 4

In [14]: 2**10

Out[14]: 1024

In [15]: 1**10

Out[15]: 1

In [16]: 8**(1/3)

Out[16]: 2.0

In [17]: 5+5*5

Out[17]: 30

In [18]: (5+5)*5

Out[18]: 50

In [19]: a=3

In [20]: a+1

Out[20]: 4

In [21]: a=5

In [22]: a+1

Out[22]: 6

In [23]: type(3)

Out[23]: int

In [24]: type(3.5)

Out[24]: float

In [25]: type(3.0)

Out[25]: float
```

```
In [26]: int(3.8)
```

```
Out[26]: 3
```

```
In [27]: int(3.0)
```

```
Out[27]: 3
```

```
In [28]: float(3)
```

```
Out[28]: 3.0
```

```
In [29]: from fractions import fraction
```

```
-----  
  
ImportError                                Traceback (most recent call last)  
  
  <ipython-input-29-176af0aa4ad4> in <module>()  
----> 1 from fractions import fraction  
  
ImportError: cannot import name 'fraction'
```

```
In [30]: from fraction import fraction
```

```
-----  
  
ImportError                                Traceback (most recent call last)  
  
  <ipython-input-30-d71122e2c47e> in <module>()  
----> 1 from fraction import fraction  
  
ImportError: No module named 'fraction'
```

```
In [31]: from fractions import fraction  
         f=fraction(3,4)  
         f  
         fraction(3,4)
```

```
-----  
  
ImportError                                Traceback (most recent call last)
```

```

<ipython-input-31-ec0338ec3b27> in <module>()
----> 1 from fractions import fraction
      2 f=fraction(3,4)
      3 f
      4 fraction(3,4)

```

ImportError: cannot import name 'fraction'

```

In [33]: from fractions import Fraction
        f = Fraction(3,4)
        f

```

Out[33]: Fraction(3, 4)

```

In [35]: Fraction(3,4)+ 1 + 1.5

```

Out[35]: 3.25

```

In [36]: Fraction(3,4) + 1 + Fraction(1/4)

```

Out[36]: Fraction(2, 1)

```

In [38]: a = 2 + 3j
        type(a)

```

Out[38]: complex

```

In [39]: a = complex(2,3)
        a

```

Out[39]: (2+3j)

```

In [40]: b = 3 + 3j
        a + b

```

Out[40]: (5+6j)

```

In [41]: a - b

```

Out[41]: (-1+0j)

```

In [42]: a * b

```

Out[42]: (-3+15j)

```

In [43]: a / b

```

Out[43]: (0.8333333333333334+0.16666666666666666j)

```
In [44]: z = 2 + 3j
         z.real

Out[44]: 2.0

In [45]: z.imag

Out[45]: 3.0

In [46]: z.conjugate()

Out[46]: (2-3j)

In [47]: (z.real **2 + z.imag **2)** 0.5

Out[47]: 3.605551275463989

In [48]: abs(z)

Out[48]: 3.605551275463989

In [56]: simplelist=[1,2,3]

In [57]: simplelist[0]

Out[57]: 1

In [58]: simplelist[1]

Out[58]: 2

In [59]: simplelist[2]

Out[59]: 3

In [61]: stringlist=['a string','b string','c string']
         stringlist[0]

Out[61]: 'a string'

In [62]: stringlist[1]

Out[62]: 'b string'

In [63]: stringlist[2]

Out[63]: 'c string'

In [64]: emptylist=[]

In [65]: emptylist
```

```

Out[65]: []

In [67]: emptylist.append(1)
         emptylist

Out[67]: [1, 1]

In [68]: emptylist.append(2)
         emptylist

Out[68]: [1, 1, 2]

In [70]: simpletuple = (1,2,3)

In [71]: simpletuple[0]

Out[71]: 1

In [72]: simpletuple[1]

Out[72]: 2

In [74]: simpletuple[2]

Out[74]: 3

In [86]: l = [1, 2, 3]

In [89]: for item in l:
         print(item)

1
2
3

In [90]: l = [1, 2, 3]

In [92]: for index, item in enumerate(l):
         print(index,item)

0 1
1 2
2 3

In [93]: x_numbers =[1, 2, 3]

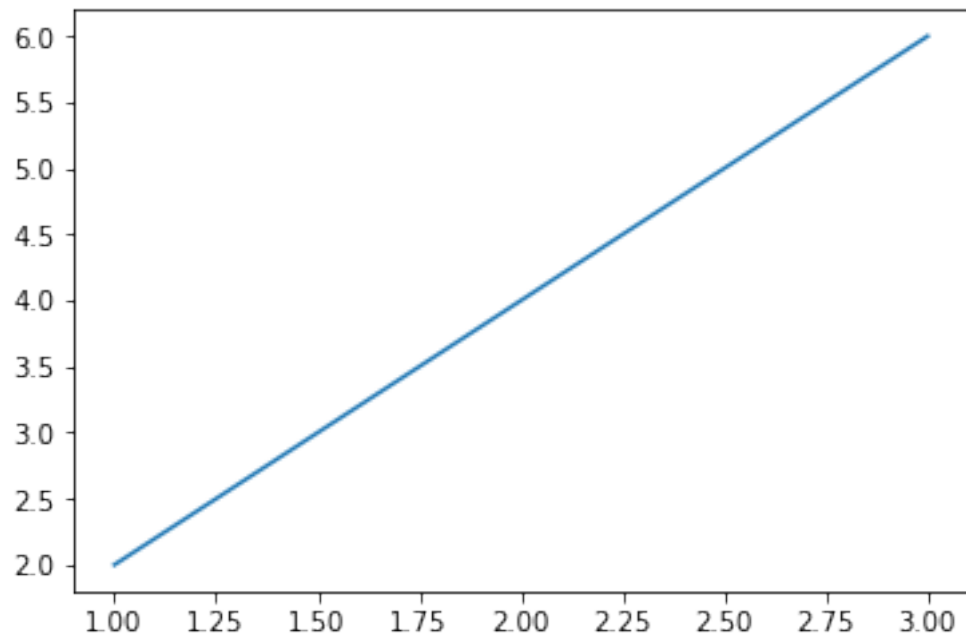
In [94]: y_numbers =[2, 4, 6]

In [95]: from pylab import plot, show
         plot(x_numbers, y_numbers)

```

```
Out[95]: [<matplotlib.lines.Line2D at 0x7facc28c77b8>]
```

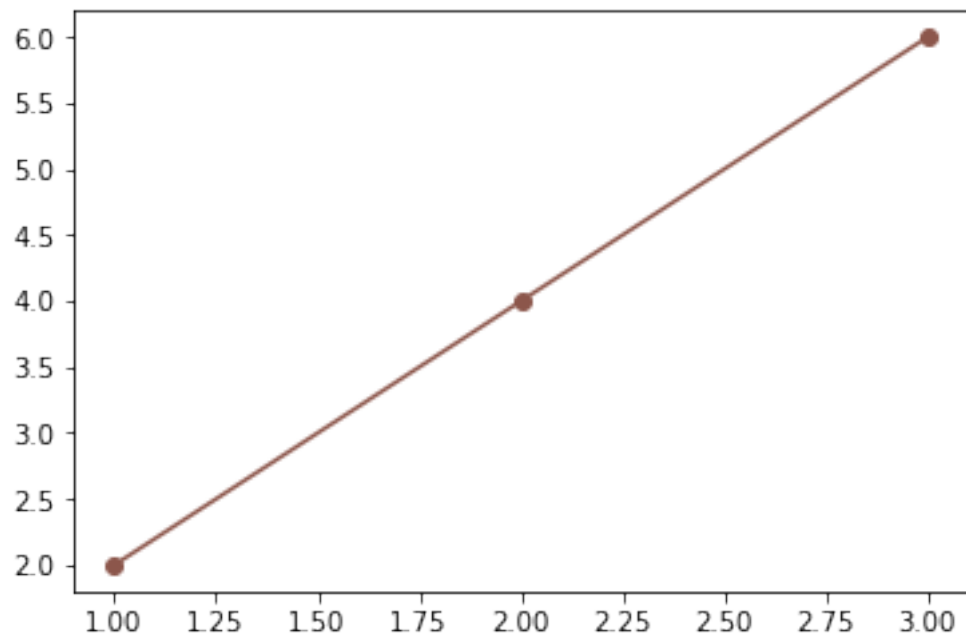
```
In [96]: show()
```



```
In [102]: plot(x_numbers, y_numbers, marker='o')
```

```
Out[102]: [<matplotlib.lines.Line2D at 0x7facc1a9d518>]
```

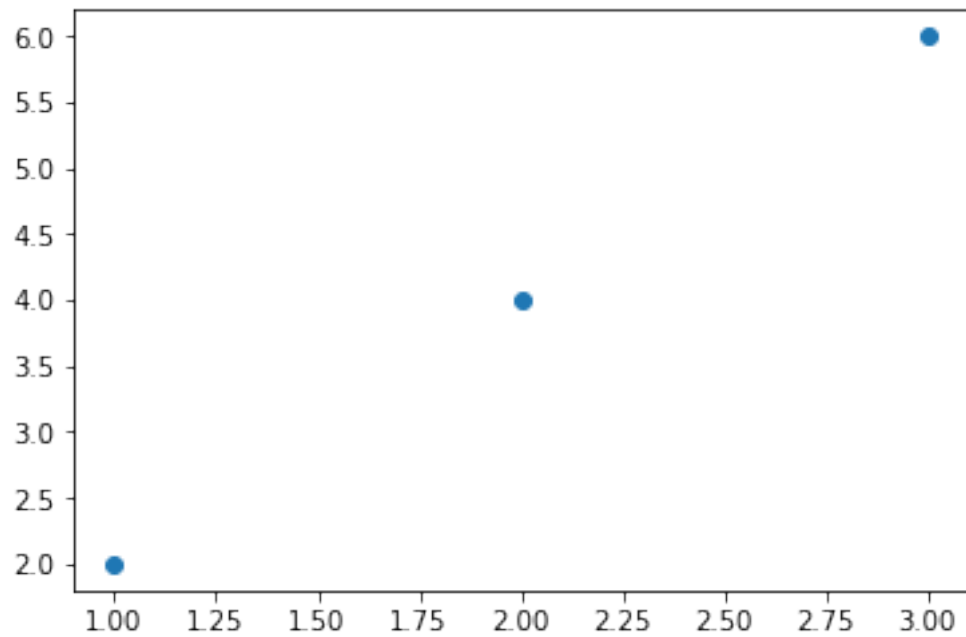
```
In [103]: show()
```



```
In [104]: plot(x_numbers, y_numbers, 'o')
```

```
Out[104]: [<matplotlib.lines.Line2D at 0x7facc1a75898>]
```

```
In [105]: show()
```



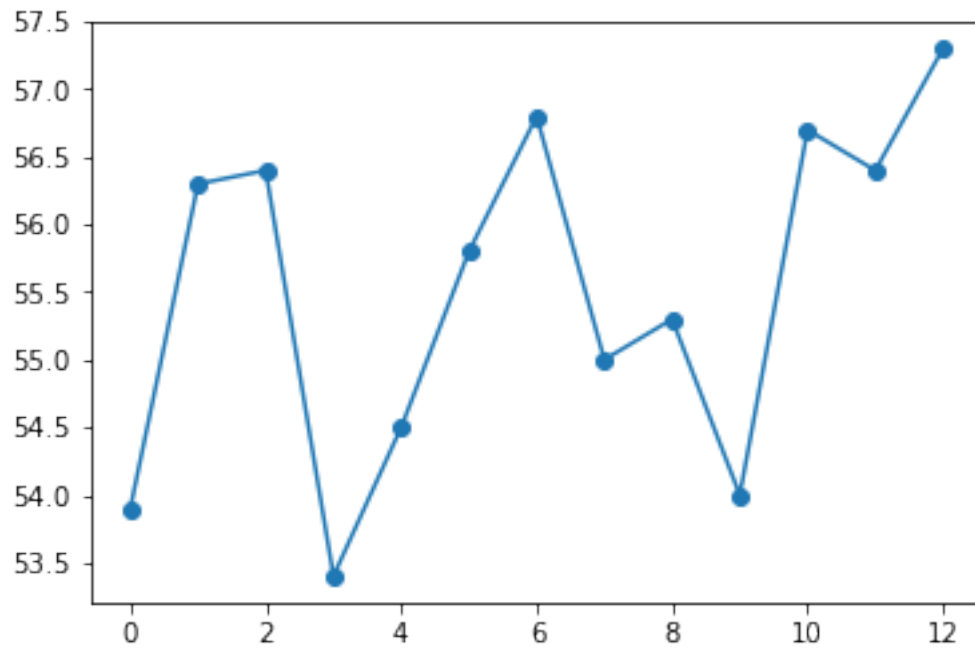
```
In [117]: nyc_temp = [53.9, 56.3, 56.4, 53.4, 54.5, 55.8, 56.8, 55.0, 55.3, 54.0, 56.7, 56.4, 57.0]
```

```
In [118]: plot(nyc_temp, marker='o')
```

```
Out[118]: [<matplotlib.lines.Line2D at 0x7facc1a48f98>]
```

```
In [119]: show()
```





```
In [123]: nyc_temp = [53.9, 56.3, 56.4, 53.4, 54.5, 55.8, 56.8, 55.0, 55.3, 54.0, 56.7, 56.4, 57.4]
```

```
In [132]: years = range(2000, 2014)
```

```
In [ ]: plot(years, nyc_temp, marker='o')  
        show()
```

```
In [ ]: #
```

```
In [ ]:
```