Example of iPython Notebook

October 28, 2015

```
In [1]: print 'Hello world!'
```

```
Hello world!
```

1 Getting started with Python

1.1 We have done

- Installed Python
- Started Ipython Notebook

1.2 Create some variables in Python

```
In [2]: i = 4 #int
```

```
In [3]: type(i)
```

```
Out[3]: int
```

```
In [4]: f = 4.1
```

```
In [5]: type(f)
```

```
Out[5]: float
```

```
In [6]: b = True #Boolean variable
```

```
In [7]: type(b)
```

```
Out[7]: bool
```

```
In [8]: s = "This is a string!"
```

```
In [9]: print s
```

```
This is a string!
```

1.3 Advanced python types

```
In [10]: l = [3,1,2]
```

```
In [11]: print l
```

```
[3, 1, 2]
```

```
In [12]: d = {'foo':1, 'bar':2.3, 's': 'my first dictionary'}
```

```
In [13]: print d
```

```
{'s': 'my first dictionary', 'foo': 1, 'bar': 2.3}
```

```
In [14]: print d['foo']
```

```
1
```

```
In [15]: n = None
```

```
In [16]: type(n)
```

```
Out[16]: NoneType
```

1.4 Advanced printing

```
In [17]: print "Our float value is %s. Our inte value is %s." % (f,i)
```

```
Our float value is 4.1. Our inte value is 4.
```

1.5 Conditional statements in python

```
In [18]: if i == 1 and f > 4:
             print "The value of i is 1 and f is greater then 4."
         elif i > 4 or f > 4:
             print "i and f are both greater then 4."
         else:
             print "both i and f are less or equal to 4"
```

```
i and f are both greater then 4.
```

1.6 Conditional loops

```
In [19]: for element in l:
             print element
```

```
3
1
2
```

```
In [20]: counter = 5
         while counter < 10:
             print counter
             counter +=1
```

```
5
6
7
8
9
```

2 Creating functions in Python

```
In [21]: def add2(x):
             y = x + 2
             return y
```

```
In [22]: i = 5

In [23]: add2(i)

Out[23]: 7

In [24]: square = lambda x: x*x

In [25]: square(3)

Out[25]: 9
```

3 Latex

$x^2 = 9$

```
In [ ]:
```