Getting started with iPython Notebook

October 9, 2017

1 Installing Python and GraphLab Create

Please follow the installation instructions here before getting started:

1.1 We have done

- Installed Python
- Started Ipython Notebook

2 Getting started with Python

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

```
Hello World!
```

2.1 Create some variables in Python

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

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

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

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

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

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

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

```
In [7]: s = "This is a string!"
```

```
In [8]: print s
```

```
This is a string!
```

2.2 Advanced python types

```
In [9]: l = [3,1,2]  # list
```

```
In [10]: print l
```

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

```
In [11]: d = {'foo':1, 'bar':2.3, 's':'my first dictionary'}  # dictionary
```

```
In [12]: print d

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

In [13]: print d['foo']  # element of a dictionary

1

In [14]: n = None  # Python's null type

In [15]: type(n)

Out[15]: NoneType
```

2.3 Advanced printing

```
In [16]: print "Our float value is %s. Our int value is %s." % (f,i)  # Python is pretty good with stri

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

2.4 Conditional statements in python

```
In [17]: if i == 1 and f > 4:
             print "The value of i is 1 and f is greater than 4."
         elif i > 4 or f > 4:
             print "i or f are both greater than 4."
         else:
             print "both i and f are less than or equal to 4"

i or f are both greater than 4.
```

2.5 Conditional loops

```
In [18]: print l

[3, 1, 2]

In [19]: for e in l:
             print e

3
1
2
```

Note that in Python, we don't use {} or other markers to indicate the part of the loop that gets iterated. Instead, we just indent and align each of the iterated statements with spaces or tabs. (You can use as many as you want, as long as the lines are aligned.)

```
In [20]: counter = 6
         while counter < 10:
             print counter
             counter += 1

6
7
8
9
```

3 Creating functions in Python

Again, we don't use {}, but just indent the lines that are part of the function.

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

In [22]: i = 5

In [23]: add2(i)

Out[23]: 7
```

We can also define simple functions with lambdas:

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

In [ ]:

In [ ]:
```