

Day 5

Python 2

- 6 sessions
 - Tuesday and Thursdays starting January 27, 2015
- Will cover
 - More on functions
 - Classes
 - Debugging and testing
 - More advanced data structures
 - Reading/writing JSON and simple SQL databases
 - Matrices

Resources

- Python cheat sheet
 - <https://www.addedbytes.com/cheat-sheets/python-cheat-sheet/>
- pip repository
 - <https://pypi.python.org/pypi/pip/>
- Scientific computing
 - <http://pandas.pydata.org/>
 - <http://matplotlib.org/>
 - <http://www.scipy.org/>
- Online reading
 - <http://inventwithpython.com/bookshelf/>

IDE

- Spyder
- iPython notebooks
- pyCharm
- Eclipse

pysam

```
import pysam

def getregions(filename, chr):
    count = 0
    f = pysam.Samfile(filename)
    chridx = f.gettid(chr)
    for i in f.fetch(chr):
        print(i.qname, i.is_reverse, i.alen, i.cigarstring)
        count = count + 1
        if count > 100:
            break

# main
if __name__ == "__main__":
    filename = "data/ENCFF001BQW.filtered.bam"
    chromosome = "chrX"
    getregions(filename, chromosome)
```