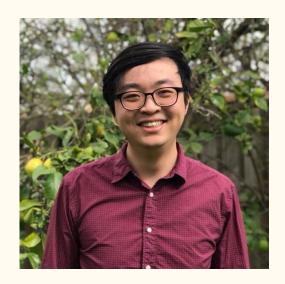
MBSI Python Coding Workshop

Introduction

All started with...



Allen Gu



Ryan Lim-Yip

Meet the team



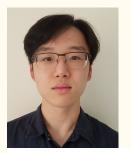
Anny Zhu



Alex Qian Wu



Benny Li



Daniel Gan



Ian Zhuo



Jimmy Danckert



Joshua Chan



Nicholas Huang



Henrique Pureza



Yujean Song

Anatomy of our workshops

- Level: absolute beginner with no prior coding knowledge
- Language: Python
- Anaconda + Github
 - Slides, resources, worksheet exercises
- Facebook group
 - Workshop recordings
- Weekly workshop times
 - Wednesdays 6.30pm

Anatomy of our workshops (plan outlined)

- Five workshops in total (must attend sequentially):
 - 1. Introduction and Hello World
 - 2. Data types and maths
 - 3. Boolean logic and conditionals + loops (part 1)
 - 4. Functions and libraries
 - 5. Data structures + loops (part 2)
- What we WON'T be covering:
 - Machine learning and AI
 - Big data analysis covered in bioinformatics workshops next semester!
 - Image analysis

Physiology of a workshop (2hr)

- In main Zoom (first 20-30 mins):
 - Recap of previous week
 - Presentation on new topic
- In breakout rooms with tutors (1.5 hrs):
 - o In-class exercises done on JupyterLab
 - Q&A
 - Fill out the feedback form

PLEASE ask questions in the Zoom chat at any time!!!

Programming???



```
value = float(value) tempValue = $t/
                                                      ****** * 14 #Replace string by value
                              tempString = tempString.replace(
| tempString = tempStrin
                                                         tif(typeOfFID == "BUFFER"): s = value dataCal **
                                            tempString.replace("czFieldID",str(key)) tempStr
                                   (typeOfFID == "ASCII_STRING"): s = value dataC
) tempString = tempString.replace("CDD

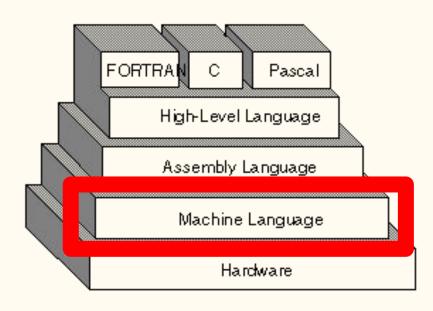
value=" in line and flagCheckRicher")
 os.path.exists(path): os.makedirs(path)

searchObj = re.search( pin )
```

How do we communicate with machine?



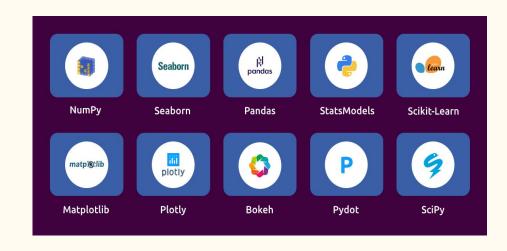




Programming languages

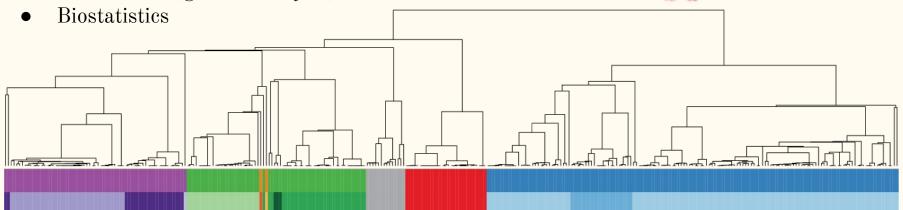


- Widely used in bioinformatics and other research fields.
- Currently 3rd most popular
- Really easy language to learn, read and use
- Full of useful libraries
- We will be using python 3 for these workshops



How programming is relevant today - applications

- Bioinformatics
- Computational genomics/biology
 - Discovery of how protein folding occurs
 - Mutation analysis
 - Disease(genetic analysis)



MBSI Python Coding Workshop #1

Introduction and "Hello World"

FEEDBACK FORM:

https://forms.gle/1GnsHhYUav7D281F8