Python Programming for Life Science Students (PyLifeS)
January - April semester, 2024

A course offered to the students of Integrated M.Sc Systems Biology
at the School of Life Sciences, University of Hyderabad

Raghunathan Ramakrishnan
ramakrishnan@tifrh.res.in
Tata Institute of Fundamental Research Hyderabad
Hyderabad, India

Course material: https://github.com/raghurama123/pylifes

tifr HYDERABAD | TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Content

References

General References

1. *Understanding Bioinformatics*, Marketa Zvelebil, and Jeremy O. Baum (Garland Science, 2008).

2. *Bioinformatics Algorithms: Design and Implementation in Python*, Miguel Rocha University of Minho, Braga, Portugal Pedro G. Ferreira (Academic Press, 2018).

3. *Computing Skills for Biologists: A toolbox*, Stefano Allesina & Madlen Wilmes (Princeton University Press, 2019).

4. *Python for the Life Sciences: A Gentle Introduction to Python for Life Scientists*, Alexander Lancaster, Gordon Webster (Springer, 2019).

5. William Bo Rothwell, "*Linux for Developers*", Pearson (2018). *See the chapters about GitHub*.

Working with GitHub

This section has been addressed in a practical, hands-on session. If you're unfamiliar with GitHub, allocating approximately 30 minutes to follow through these steps is recommended.

Git and GitHub

- `git` is a commandline program (version control system) which you can access from Linux/Mac terminal.
- GitHub is a platform where you can store and manage your codes/repository
  - interactively on the GitHub website or the GitHub desktop program (*https://desktop.github.com/*) which you can install in your laptop or desktop
  - through `git` commands in a terminal. Check Ref.5 to learn about `git` commands.

Fork the main branch (once)

- Create a GitHub accound and fork the main branch : *https://github.com/raghurama123/pylifes*

Push your changes

- If you have GitHub-deskop installed on a Windows environment, your copy of the repository should be located at `Onedrive/Documents/Github/pylifes`
- You can edit any files present in this folder or create a new file.
- Then, open the GitHub-desktop application, and figure out how to `commit` and `push` your changes

Pull and merge new changes

- Before every class, check your copy of the course content at *https://github.com/USER/pylifes*
- Click the message x `commits behind`
- Click `Create pull request` (which you have to click twice) and click `Merge pull request`