

Using Git and Python for Collaborative Coding in Google Colab & Least Square Application

Lab assignment #1 (worth 20%; deadline: Friday, October 24 at 11:59pm)

Learning objectives

After completing this lab assignment students should be able to:

- Understand and apply version control techniques
- Collaborate effectively on a Python coding project
- Manage and modify project documentation
- Get command of Least Square and coding

Preliminary Task – Group Contract (5 Marks)

Review “*Additional Lab Information*” carefully and develop a group contract using the template found in Appendix A of the document. The group contract will be submitted as a .pdf file for this lab assignment.

Task 1 – Team Organization (5 Marks)

Designate a team member as the Team Lead for this assignment. The Team Lead is responsible for:

- Forking the repository: https://github.com/Deep-nav-auto-lab/ENGG680_2025_Fall
- Ensuring that all team members are added as contributors to the forked repository

Task 2 – Bookkeeping Tasks (10 Marks)

The following tasks must be completed to keep the growing repository succinct and manageable:

- Create a folder named `Lab_Assignment1`
- Upload your updated `README.md` file within the `Lab_Assignment1` folder to include the name and UCID of each group member, as well as a short excerpt on what Assignment 1 is about.
- Upload the `Assignment1 Colab notebook` within the newly created `Lab_Assignment1` folder, as well as `studentGrades_English.csv`, `studentGrades_Math.csv`, and `studentHomerooms.csv`, `data.xlsx`. By placing the notebook and input files in the same folder, you ensure that the notebook can access the files. Additionally, output files generated by the notebook will be saved in the same folder.
- *These bookkeeping steps are expected for future assignments and will be explicitly evaluated, to keep the repository clean.*

Task 3 – Complete the Assignment (75+ 5 Marks)

- Please go through *Assignment* and complete the notebook.
- **Please be sure to fill in the certificate of work (5 marks)**
- Every team is required to use *Git* to collaborate on this assignment and ensure proper distribution of work.
- For groups of 3 people, please choose 25 scores out of 100 **except part 6** to omit.

All the listed materials **must** be submitted in the *Lab Assignment 1* D2L dropbox by the deadline. **Late** and **incomplete** submissions will result in a deduction of marks.

- A zip file of the *Lab_Assignment1* folder, which should include a *.ipynb* file, a *.md* file, three *.csv* files
- A link to the group GitHub repository
- A *.pdf* file of your group contract

As stated from “*Additional Lab Information*”, please remember that:

- Each member is **required** to make at least one commit and push to the group repository. Failure to do so will result in a 1% **individual** course grade deduction.
- The D2L submission Dropbox will close 24 hours after the deadline. All submissions in this 24-hour window are subject to a 20% lab grade deduction.
- There must not be any commits to the *Lab_Assignment1* folder in your GitHub repository after the deadline, or there will be a 20% lab grade deduction.