

Lab 06: Software Engineering Python

Overview

The objective of this lab is to understand the purpose and usefulness of debugging and version control. Debugging is an essential skill needed to be a successful developer. We will use IntelliJ's built-in debugger. We will also practice functions of version control systems to develop familiarity in them.

Specification

1) You will be debugging your Lab 03 solution code in this lab. After you have demonstrated to a lab instructor that you can successfully debug a program, you push a program up to your GitHub repository.

Debugging

- 2) Open your IDE (PyCharm by default)
- 3) Open your Lab 03 solution (or a previous lab/project if you didn't complete Lab 03)
- 4) Demonstrate breakpoints, the watch window, and the stack trace window to your lab instructor (online students should create a short screencast)

You may find this site useful for PyCharm specifically: <https://www.jetbrains.com/help/pycharm/debugging-your-first-python-application.html#where-is-the-problem>

Version Control

- 1) Complete these exercises: <https://try.github.io/levels/1/challenges/1>
- 2) Install Git for your OS if necessary. (You can download Git here: <https://git-scm.com/downloads>)
- 3) Create a GitHub educational account: <https://education.github.com/pack/join>
- 4) Create an empty repository on GitHub (no license, README, or other files)
- 5) Add, commit, and push your old lab (or other code) to the GitHub repository (hint: clone first!)
- 6) Make a change to your old lab file (add a comment, for example) and push this change to GitHub.
- 7) Add your lab instructor as a collaborator on your repository.
- 8) Show your lab instructor your completed repository.

If you are unfamiliar with the command line, read this guide (for Mac, Linux, and Git-Bash on Windows): <http://www.ee.surrey.ac.uk/Teaching/Unix/>

Rubric

Criteria	Ratings	Ratings	Points
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Make your GitHub repo public https://docs.github.com/en/enterprise-server@3.1/repositories/managing-your-repositorys-settings-and-features/managing-repository-settings/setting-repository-visibility	2 pts Full Marks	0 pts No Marks	2 pts
Push Code to public GitHub Step 5) Add, commit, and push your code to GitHub	5 pts Full Marks	0 pts No Marks	5 pts
Modification and Push to GitHub Again Step 6) Make a change to your file and push this change to GitHub	3 pts Full Marks	0 pts No Marks	3 pts

Total Points: 10

Submissions

Campus – The debugging section of this lab requires a “check-off” in lab. Your GitHub repository can be demonstrated in person (for check-off) or can be posted later to your GitHub account.

Online – The debugging section of this lab requires a screencast submitted via Canvas. Your GitHub repository will be checked on GitHub to verify completion.