

# Operating Systems

CMPT 424

## -Lab 000

### Goals

### Development tooling and Adding Shell Commands

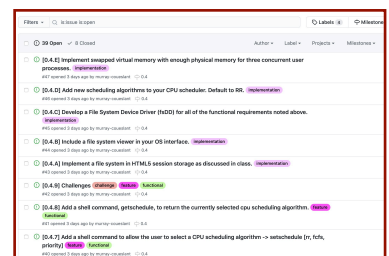
This active learning exercise will help you make progress on the practical aspects of developing your operating system.

### Instructions

1. Make yourself a **private** GitHub repository.
2. Clone or download *iProject 0* (the TSOS-2025 repository) from AlanClasses on GitHub. (Forking a public repository into a private one is complicated; don't do that.)
3. Add Alan (GitHub user **Labouseur**) as a collaborator to your new repository.
4. Add the *iProject 1* functional requirements as Issues in GitHub as elements of an "*iProject 1*" milestone. Set the tag for each issue to "feature". (See image below.)
5. E-mail Alan with the URL of your **private** GitHub repository.
6. Set up and test your TypeScript development environment.
  - a. Follow the instructions in *README.md* to get the TypeScript compiler installed, configured, (including *tsconfig.json*), and running.
  - b. Use the latest version of TypeScript as of the first week of class and stick to that version for the entire semester.
  - c. ~~Tweak the *tsconfig.json* file so executing the *tsc* command compiles your project and puts the output files in the correct places.~~ Actually, it's fine.
  - d. DO NOT USE Node.js. We don't need it for this project; I don't want it for this project; and I will not be running it when I compile and run your code to grade it. **Hear me now and believe me later:** TypeScript outputs JavaScript that runs in the browser without any help. That's what we're doing here.
7. Open up *shell.ts* in your development environment.
8. Look at the existing commands and how they are implemented.
9. Enhance the *shellMan* function so that your OS's *man* function works better than Alan's. This is a nice way to get familiar with the code.
10. Add new commands as specified in your Issues and *iProject 1*. Demonstrate programming best practices or Alan will get bitchy.
11. Experiment with Cursor. It may help. Or not. Your choice.
12. Test everything. Then test again. And again.
13. Read chapters 2.2 and 21.8.2 in the 8<sup>th</sup> edition of our text.

### Resources

- <https://github.com/AlanClasses/TSOS-2025>
- <https://education.github.com/pack>
- <https://guides.github.com>
- <https://guides.github.com/features/issues/>
- <http://www.typescriptlang.org>
- <https://www.jetbrains.com/help/idea/typescript-support.html>
- <https://www.sitepen.com/blog/2013/12/31/definitive-guide-to-typescript/>



### Submitting

Commit your work to your **private** GitHub account in an appropriately-named folder. Make sure to tag your commit messages with the Issue number they address.