Yusen Xia CPSC 334 – Linux & DevOps May 2025

1 . Techniques & Tools Used

- Git & GitHub
- GitHub Actions
- pytest
- flake8
- Docker
- Makefile
- VScode

2 . Key Steps to Build the Release Package

Step 1: Created a Dockerfile

Step 2: Add a docker-build target into Makefile

Step 3: Configured a GitHub Actions “package” job to build the image and save it as minesweeper.tar

Step 4: Used docker load and docker run locally to verify to check if the image runs okay

3 . Challenges

- When I first ran Flake8, it just kept yelling about long lines and tabs, so the build is never passing. And I ran “autopep8” to fix it but it didn't look too good so I had to fix it by myself and it took some time.

4 . For Future Projects

I will say DevOps saves me tons of time. Because tests and lint run every time when I push something into main, it shows the bug and error that I have and I can fix it. And other thing is cloning the repo on a new machine is painless, all I need to do is git clone and it will set up the whole environment, no manual setup needed.

5. Summary

I have to say, this course taught me a lot. Before, I had no idea GitHub could do so many things like setting up self-hosted runners, turning a simple game into a fully automated pipeline, it's the first time I use github like this and it’s honestly fascinating. I also learned how to write Makefiles and finally got comfortable with Linux., I used to know nothing about Linux, but this experience showed me why many developers prefer it over Windows: the tools feel lighter, faster, and made for coding. Anyway, now I love using Linux and I’m excited to keep using Linux for all my future coding assignment or programs.