Assignment 0: Getting Started

CS 6476

Fall 2024

This is an **ungraded** assignment that will help you get up and running with a working environment! For those that are familiar with this setup – let's rehash anyways. We'll focus on installing a few crucial tools to help us maintain consistent environments between students.

- Visual Studio Code
- Canvas
- Miniconda

Visual Studio Code

Visual Studio Code is **recommended** for this course for a few reasons:

- Consistent development environment (so the teaching staff can more easily help!)
- Ease of integration with Jupyter Notebooks.

macOS Users (Optional)

`brew` is a very useful package management tool for `macOS`. It can make some of the above installations even simpler.

```
/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
brew install --cask visual-studio-code
brew install gh
```

Visual Studio Code Extensions

Download the following extensions:

- Python

Note: Confirm that all the extensions are installed/enabled before continuing.

Canvas

All assignments will be uploaded as zip files in the **Files** section under the course on Canvas. You will be required to download the zip file and unzip it.

Environment Setup

We will use Miniconda and `pip` to create a consistent Python environment for running and testing code. You will need to install Miniconda before proceeding. Refer to the Miniconda Installation Instructions to install the correct version for your system. For more details, see the Miniconda website.

Setting Up Assignment 0

In VSCode, open the assignment folder you downloaded. You will see an installation script, `install.sh`, in the `conda` folder. Running this script will create your conda environment, which should then be activated. If you do not see `cv_assn0` at the start of each command prompt line, you may need to manually activate the environment with the following commands:

```
conda init
conda activate cv_assn0
pip install -e .
```

Important Note: You will need to select a `Default Interpreter`, usually at the bottom right of the VSCode window, to ensure proper linting and static analysis.

Unit Test Setup

We will use `pytest` as the testing framework. Some unit tests will be provided, while others will be run at submission time.

Running Unit Tests

Run all unit tests in the `tests` folder with the following command:

```
pytest tests
```

Initially, the tests will fail. Modify `src/vision/linalg.py` to pass the tests!

Jupyter Notebook

Each assignment will come with a Jupyter notebook. You can open these notebooks directly in VSCode or use the following command:

```
jupyter notebook ./<file_name>.ipynb
```

You can edit text cells by double-clicking them and run code cells using `cmd+enter` or `shift+enter`.

Submission

To create a zip file for Gradescope, run the following command:

```
python submission.py --gt_username <your_username>
```

Conclusion

We hope this assignment helped you set up your environment for the course. If you have any questions, feel free to post them on Ed.

Credits

Assignment developed by Humphrey Shi based on a similar assignment by James Hays, Judy Hoffman and Derek Hoiem.