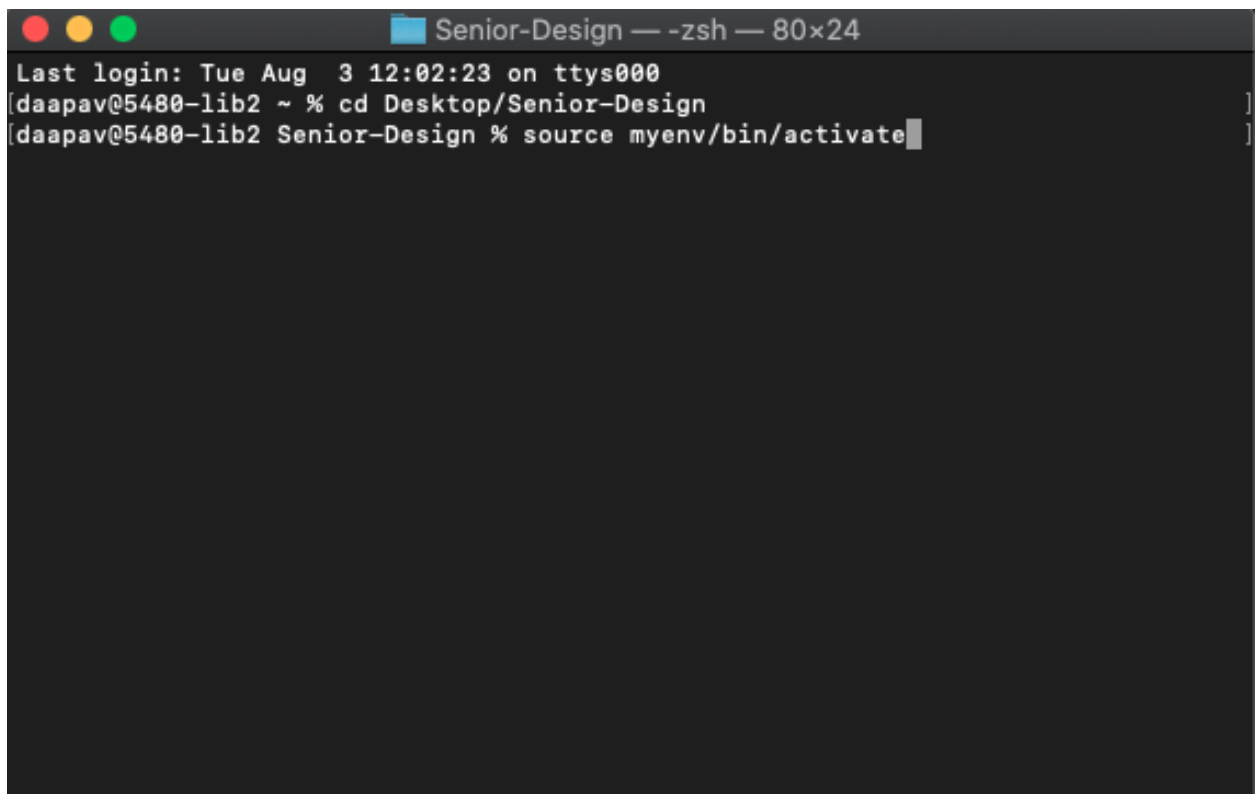


User Documentation –

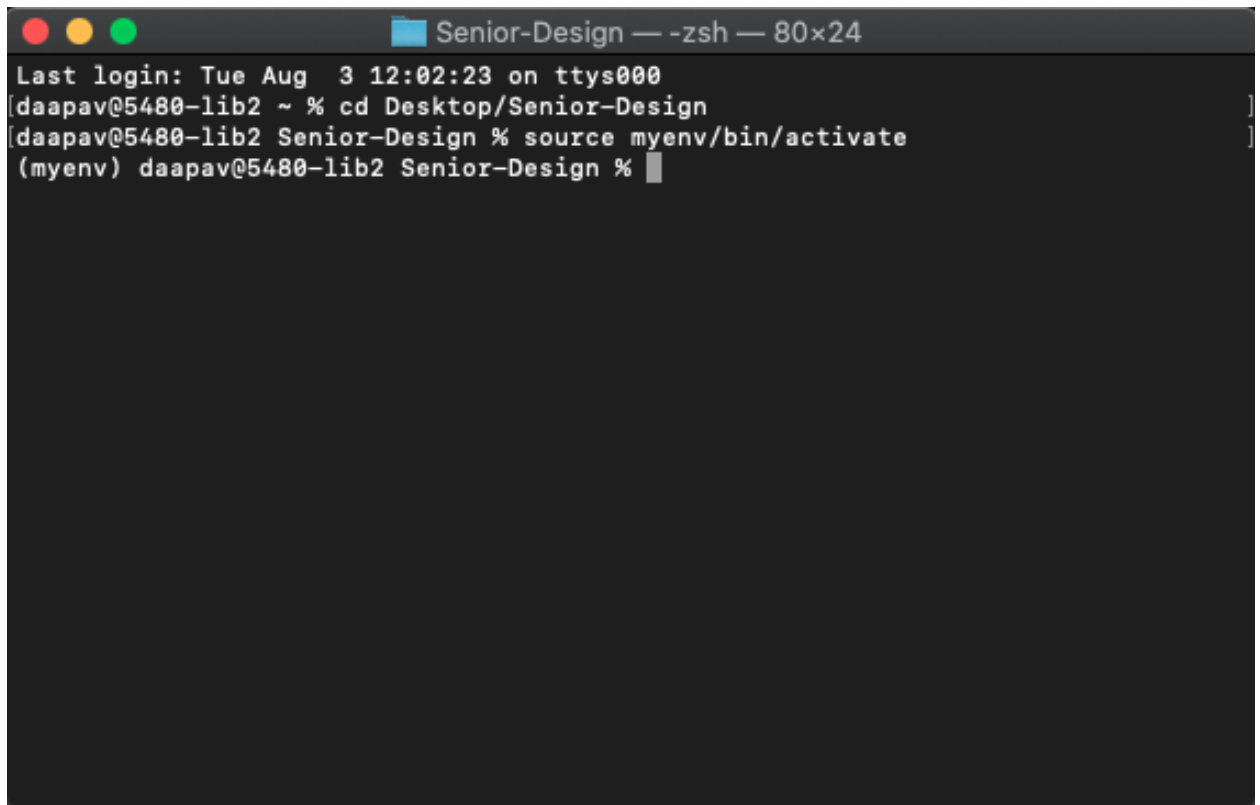
I assume the user has either MacOS or an Ubuntu distribution.

1. Install Python3.9:
 - MacOS – <https://www.python.org/downloads/>
 - Ubuntu - <https://bit.ly/2WFEfN1>
2. Set up a virtual environment –
 - MacOS - <https://bit.ly/3ilTTWj>
 - Ubuntu - <https://bit.ly/3ij9qWG>
3. Once the virtual environment has been configured, navigated to the folder it resides in and activate it.

A terminal window titled "Senior-Design — -zsh — 80x24" with standard macOS window controls (red, yellow, green buttons). The terminal shows the following text:

```
Last login: Tue Aug 3 12:02:23 on ttys000
[daapav@5480-lib2 ~ % cd Desktop/Senior-Design
[daapav@5480-lib2 Senior-Design % source myenv/bin/activate
```

The cursor is at the end of the last line. The terminal background is dark gray, and the text is white.

A terminal window titled "Senior-Design — -zsh — 80x24" with standard macOS window controls (red, yellow, green buttons). The terminal output shows the user logging in, navigating to the Desktop/Senior-Design directory, and activating a virtual environment named myenv. The prompt changes from a standard shell prompt to a virtual environment prompt.

```
Last login: Tue Aug  3 12:02:23 on ttys000
[daapav@5480-lib2 ~ % cd Desktop/Senior-Design
[daapav@5480-lib2 Senior-Design % source myenv/bin/activate
(myenv) daapav@5480-lib2 Senior-Design %
```

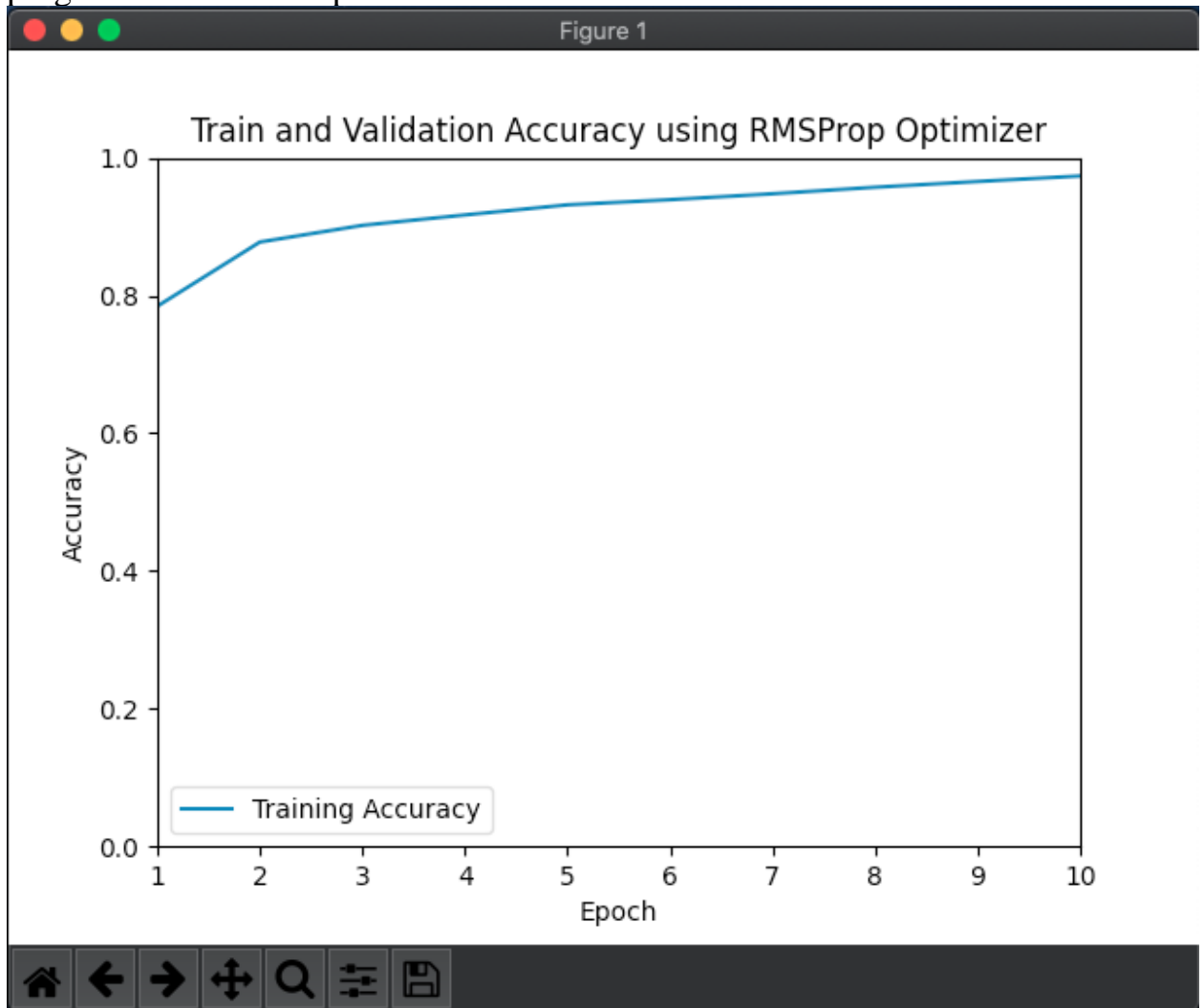
4. Clone the Github repository in the same directory the virtual environment is in and navigate to the Senior Design Directory.

```
Senior-Design — -zsh — 80x24
[(myenv) daapav@5480-lib2 Senior-Design % git clone https://github.com/AnuragN7/Senior-Design.git
Cloning into 'Senior-Design'...
remote: Enumerating objects: 33, done.
remote: Counting objects: 100% (33/33), done.
remote: Compressing objects: 100% (31/31), done.
remote: Total 33 (delta 8), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (33/33), done.
[(myenv) daapav@5480-lib2 Senior-Design % cd Senior-Design
(myenv) daapav@5480-lib2 Senior-Design %
```

5. Run 'Python lstm.py'

```
Senior-Design — -zsh — 80x24
[(myenv) daapav@5480-lib2 Senior-Design % git clone https://github.com/AnuragN7/Senior-Design.git
Cloning into 'Senior-Design'...
remote: Enumerating objects: 33, done.
remote: Counting objects: 100% (33/33), done.
remote: Compressing objects: 100% (31/31), done.
remote: Total 33 (delta 8), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (33/33), done.
[(myenv) daapav@5480-lib2 Senior-Design % cd Senior-Design
[(myenv) daapav@5480-lib2 Senior-Design % cd ..
[(myenv) daapav@5480-lib2 Senior-Design % python lstm.py
```

6. After the training epochs are finished, the first plot reveals how training has progressed over each epoch.



7. The second is a heatmap revealing how well the Neural Network performed.
(Please see next page)

