ENGSCI 331 – Computational Techniques 2

Lab 2 Part 3: Database Assignment 2023

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Includes updates from Andres Kempa-Liehr

ENGINEERING

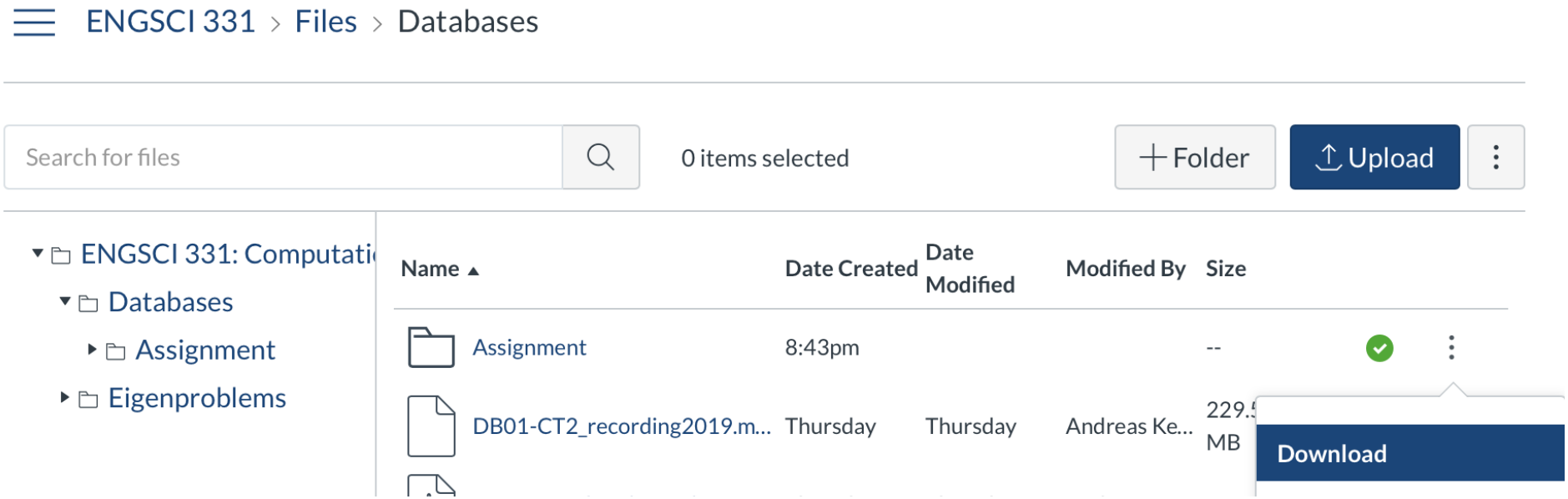
Department of Engineering Science

Due Date: 20 Aug 2023 (see Canvas)

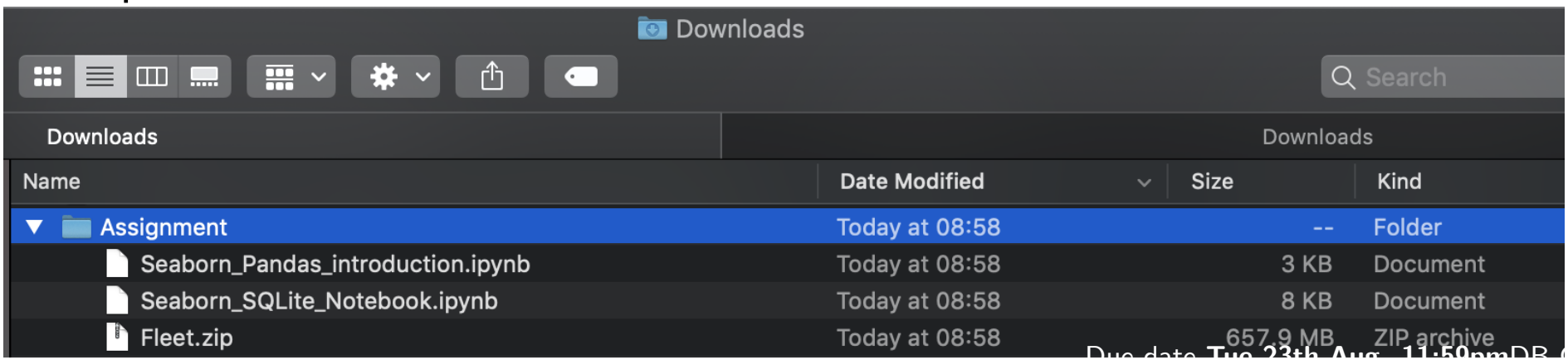
DB-CT2-lab assignment.pdf, Rev 2023814A

Step 1 – Download Assignment Folder from Canvas

ENGSCI331 → Files → Databases → Assignment



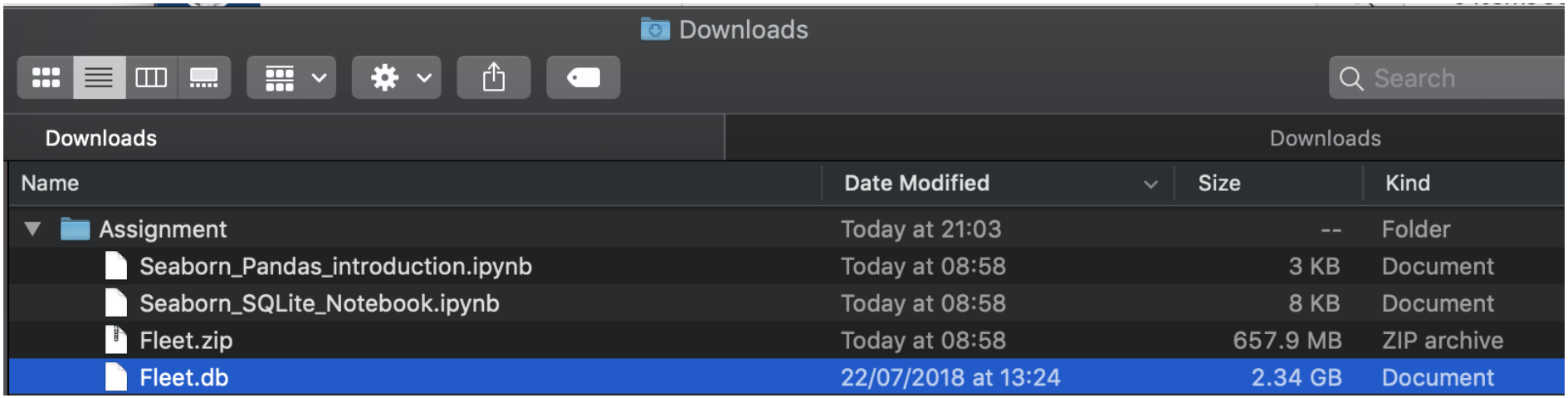
Example view of downloaded folder:



Due date **Tue 23th Aug, 11:59pm**DB (

Step 2 – Extract Fleet.zip into "Assignment" folder

View of downloaded folder after extraction of Fleet.zip to create Fleet.db:



We will be using JupyterLab to run the Python notebooks. You are welcome to use your preferred software for this, including Visual Studio Code or PyCharm.

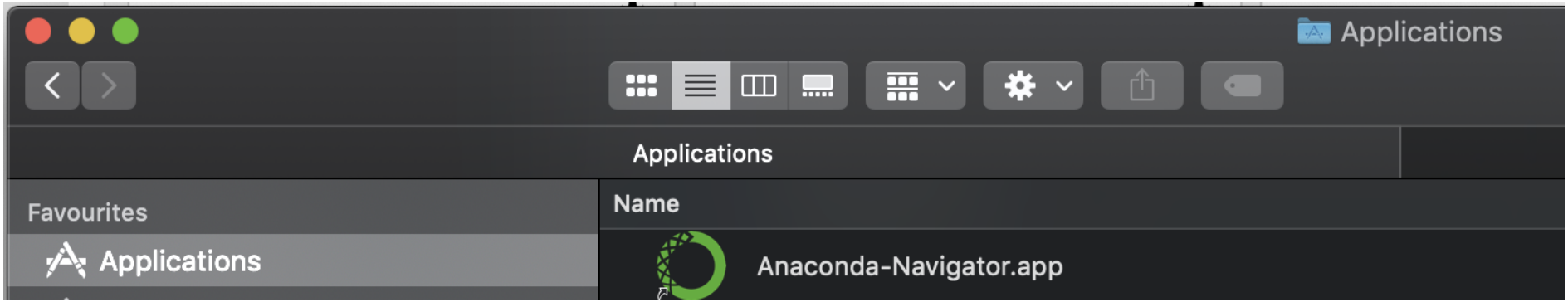
The next slide shows how to install Jupyter Notebook support using Anaconda. You can skip this step in our labs and jump to Step 4.

Step 3 – Install Python Anaconda for access to JupyterLab (if required at home)

`https://www.anaconda.com/products/distribution`

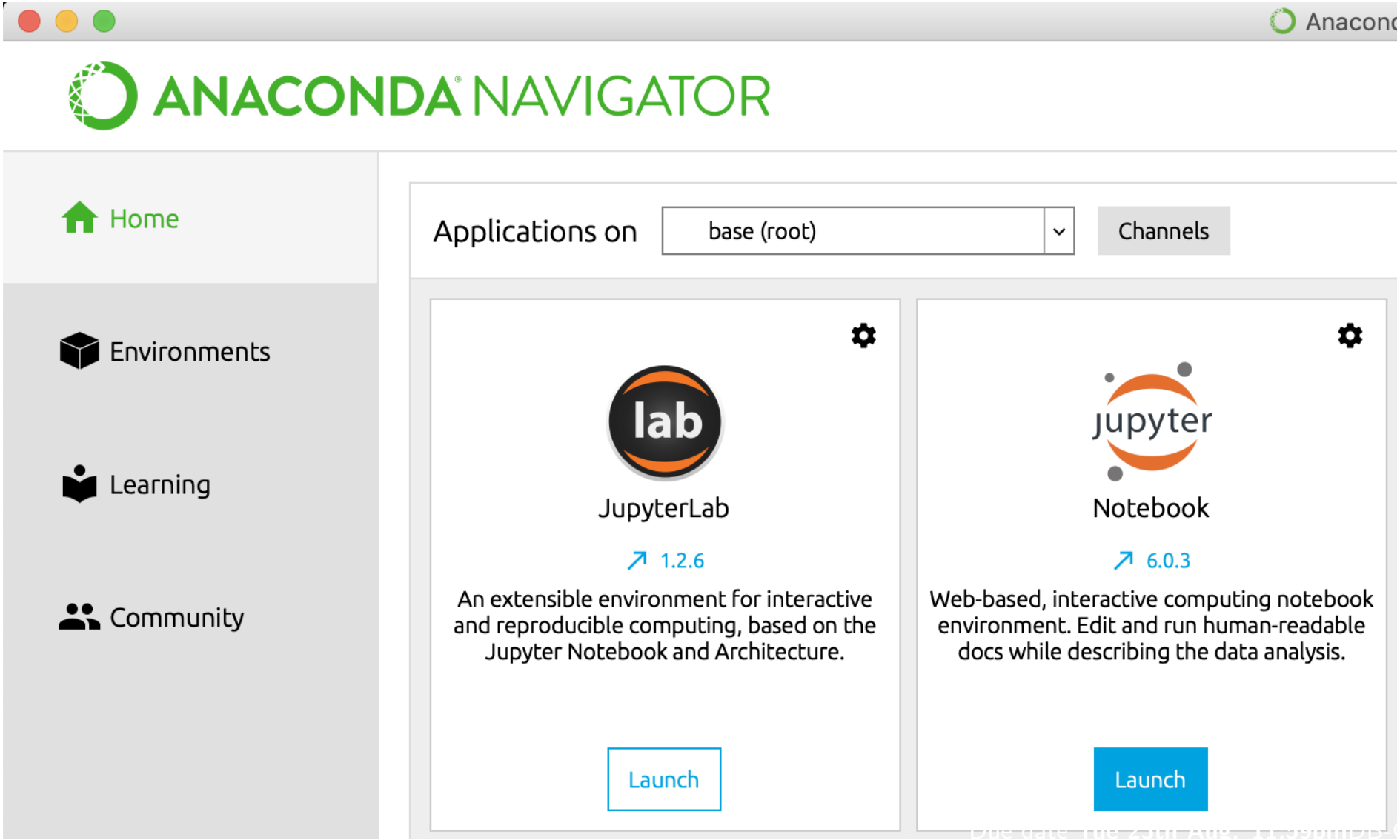
Step 4 – Open Anaconda Navigator

Open Anaconda Navigator

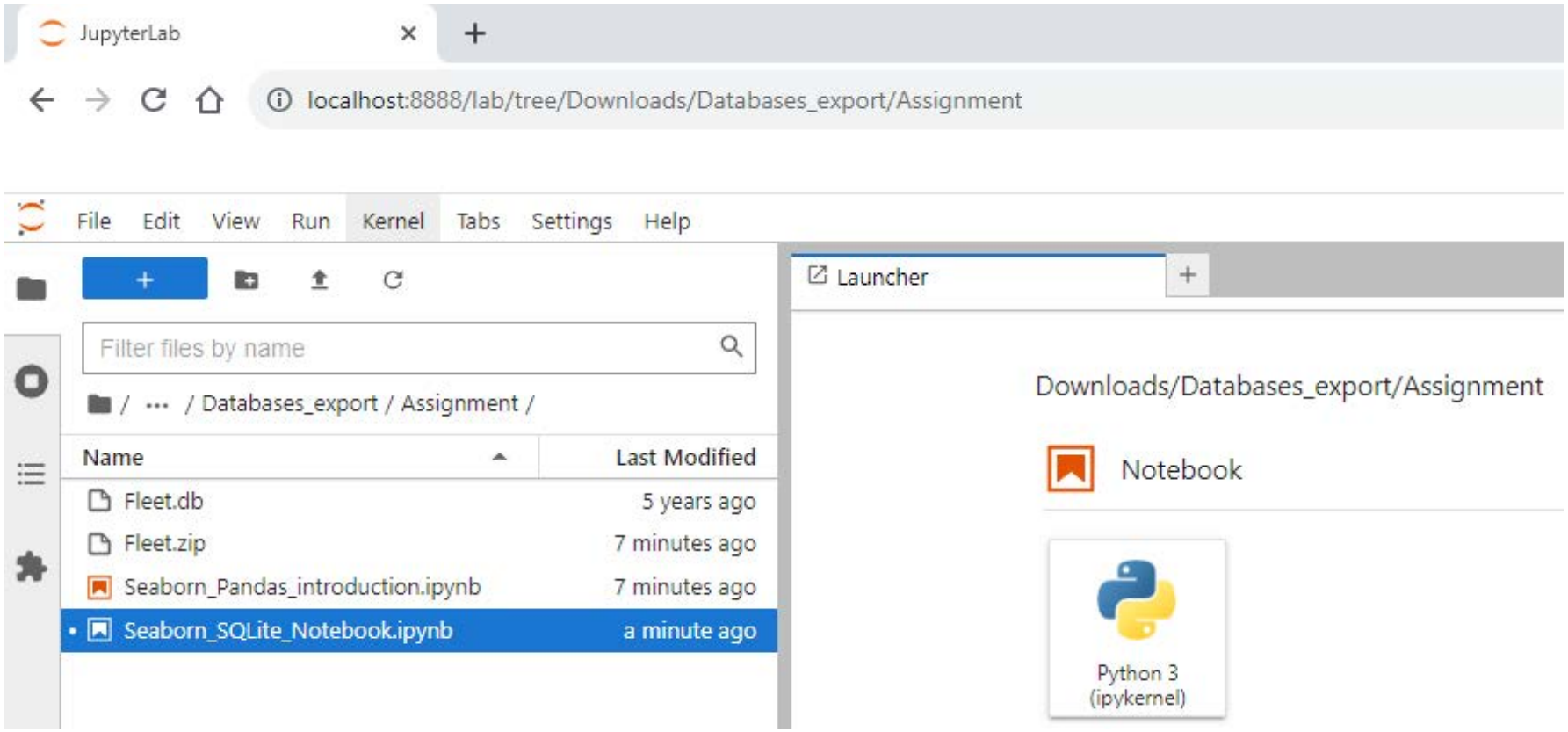


Step 5 – Launch Jupyter Notebook

Launch Jupyter Notebook



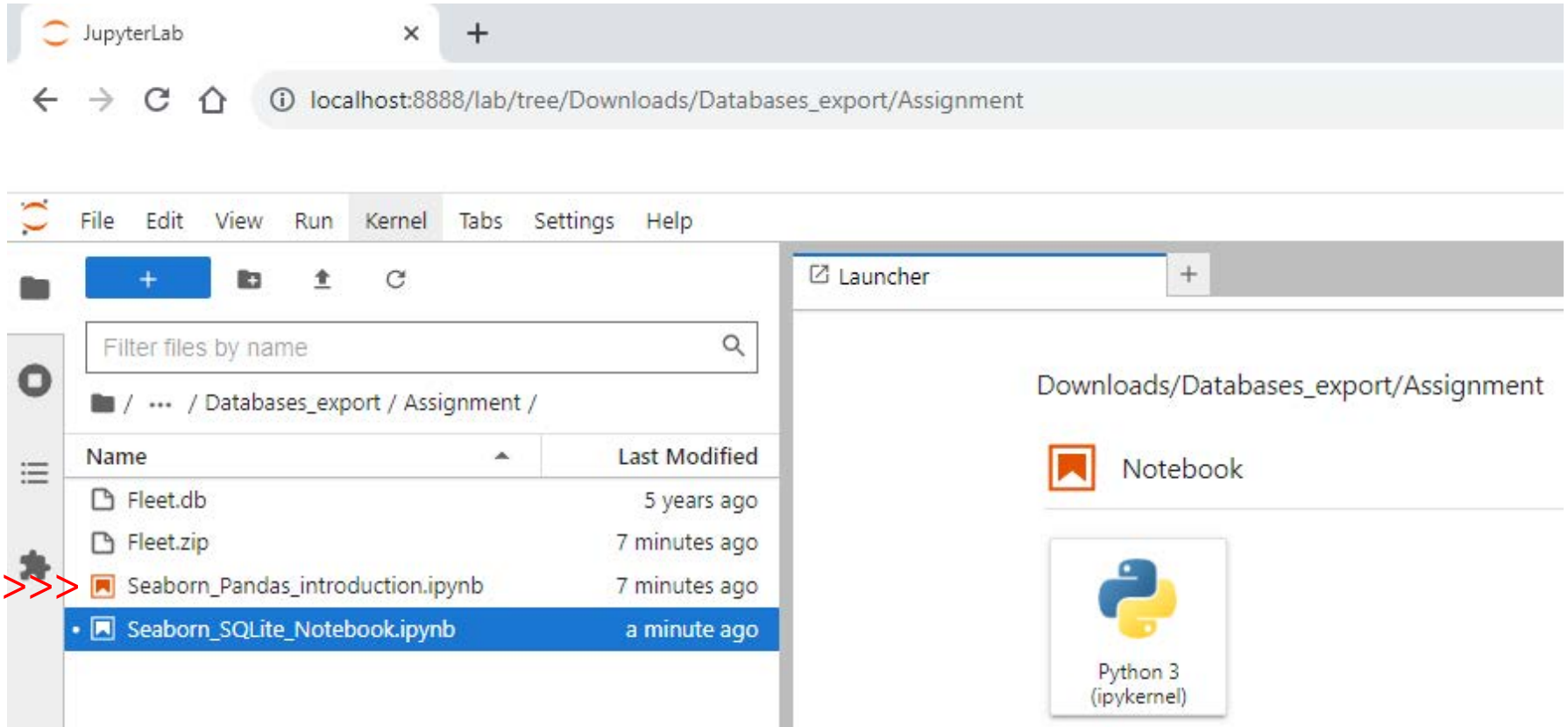
Step 6 – Navigate to "Assignment" folder



Step 7 – Open `Seaborn_Pandas_introduction.ipynb` and run notebook

Seaborn is a library for making statistical graphics in Python. It builds on top of matplotlib and integrates closely with pandas data structures.

Open notebook `Seaborn_Pandas_introduction.ipynb`



Step 8 – Run notebook cells

- Run notebook cells by clicking the Run button 

or using the keyboard command SHIFT+ENTER
- Work through the complete notebook

jupyter Seaborn_Pandas_introduction Last Checkpoint: a minute ago (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted Python 3

Run Code

Introduction to seaborn and pandas

This notebook demonstrates basic seaborn functionality. For documentation and some more plots checkout https://seaborn.pydata.org

Execute the Python commands of the following cells by either clicking on the `Run` button or the keybord command

SHIFT-ENTER

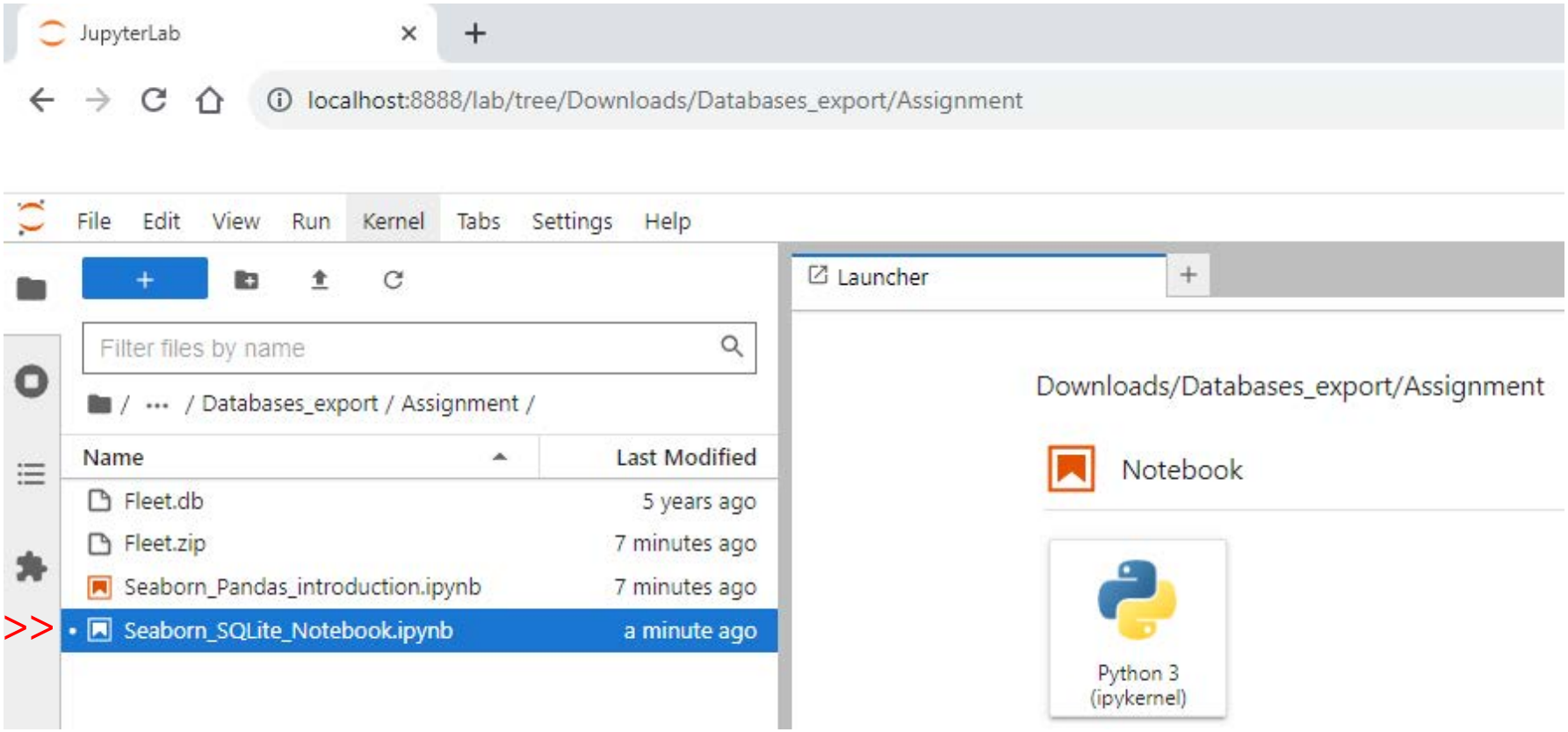
In [ ]:

```
# Install a conda package in the current Jupyter kernel
import sys
!conda install --yes --prefix {sys.prefix} seaborn
```

Step 9 – Open Seaborn_SQLite_Notebook.ipynb

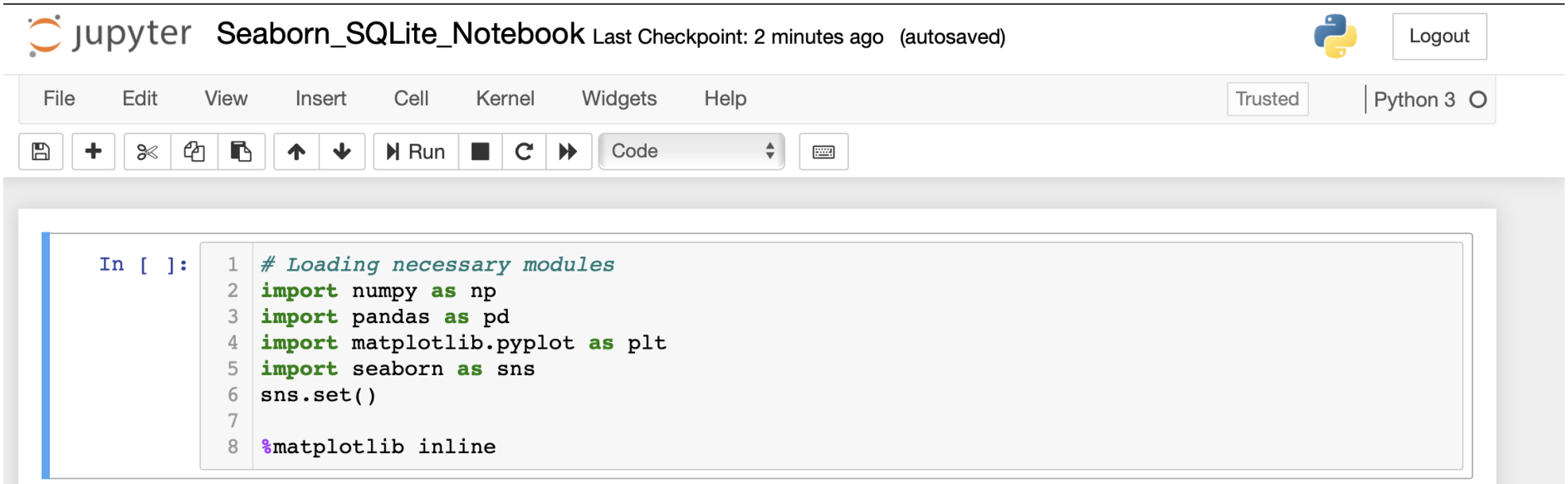
The notebook Seaborn SQLite Notebook.ipynb contains the main tasks of your assignment. You will be using SQL queries to analyse car information in the SQLLite database fleet.db database.

Open notebook Seaborn_SQLite_Notebook.ipynb



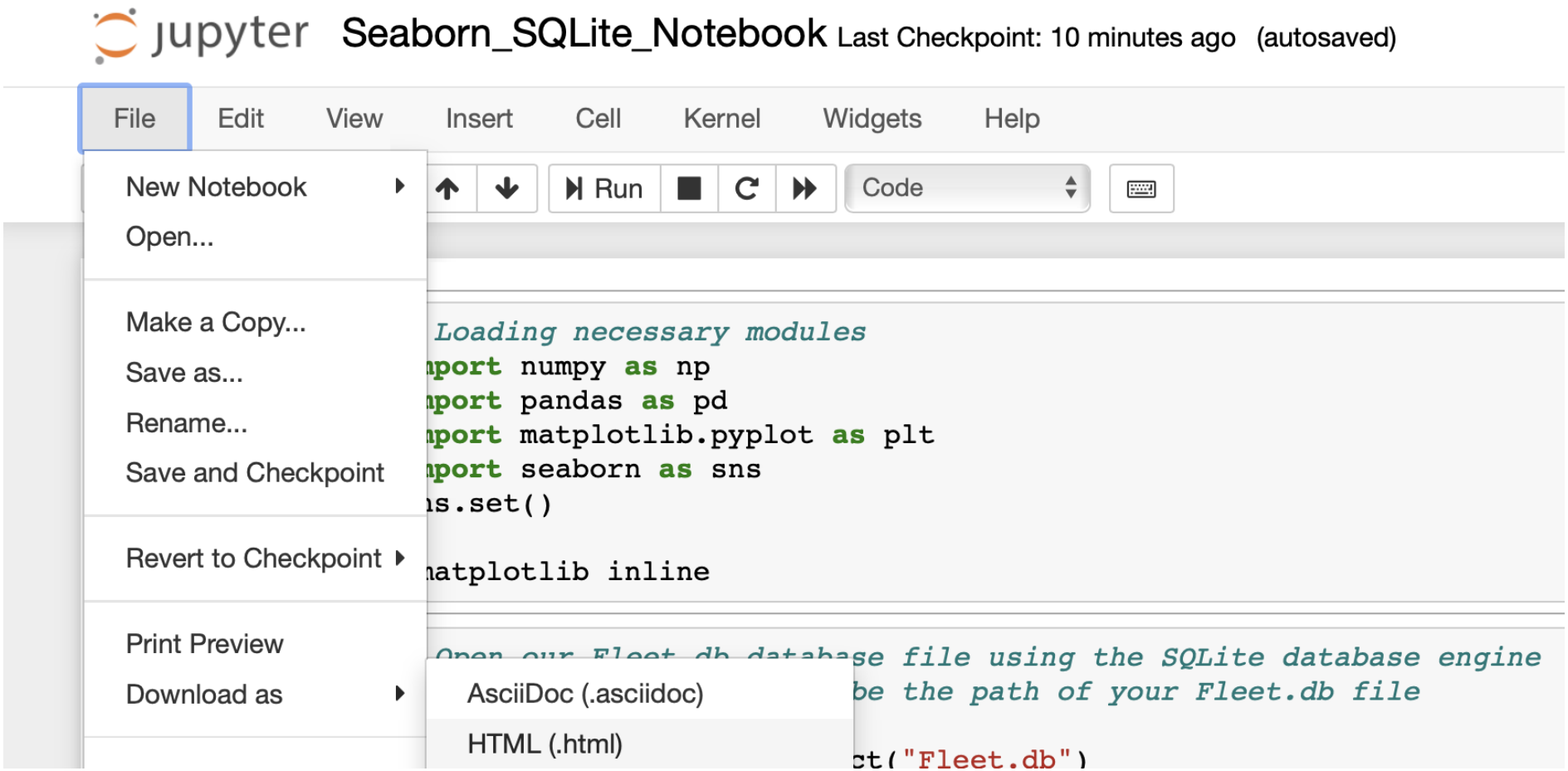
Step 10 – Work through the assignment notebook

- The notebook `Seaborn_SQLite_Notebook.ipynb` contains the main tasks of your assignment.
- Complete all tasks.



Step 11 – Export your notebook as HTML file and upload to Canvas

Download your notebook as html: File → Download as → HTML (.html)



- Upload the HTML file to Canvas.