

MIDDLE TENNESSEE STATE UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE

CSCI-3080 DISCRETE STRUCTURE

OLA4: Matrices

Instructor: Dr. Xin Yang

Due date: Mar 21st, 2022 (23:59 PM)

March 14, 2022



1. Download and Install Anaconda

Windows users: <https://docs.anaconda.com/anaconda/install/windows/>

Mac users: <https://docs.anaconda.com/anaconda/install/mac-os/>

Linux users: <https://docs.anaconda.com/anaconda/install/linux/>



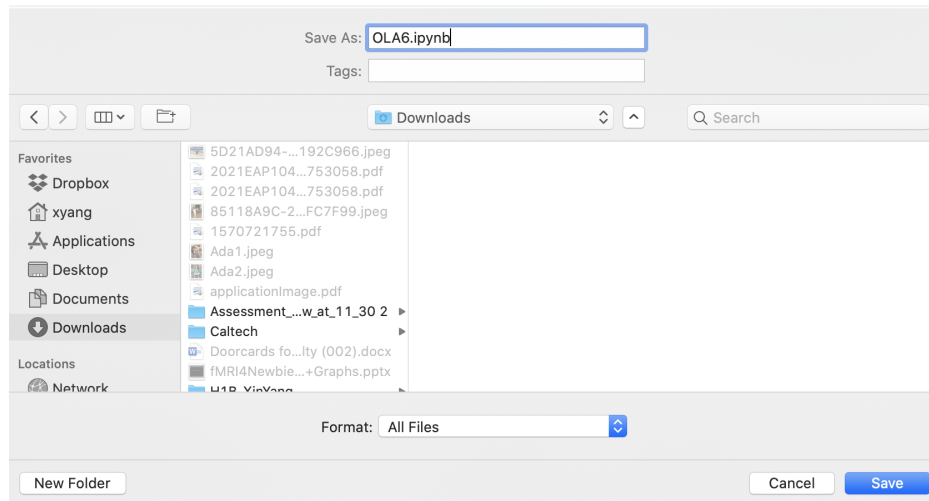
Figure 1: Anaconda: Data Science Platform

2. Download the Starter Jupyter Notebook

Please download the starter Jupyter Notebook (OLA4.ipynb) from my course calendar:

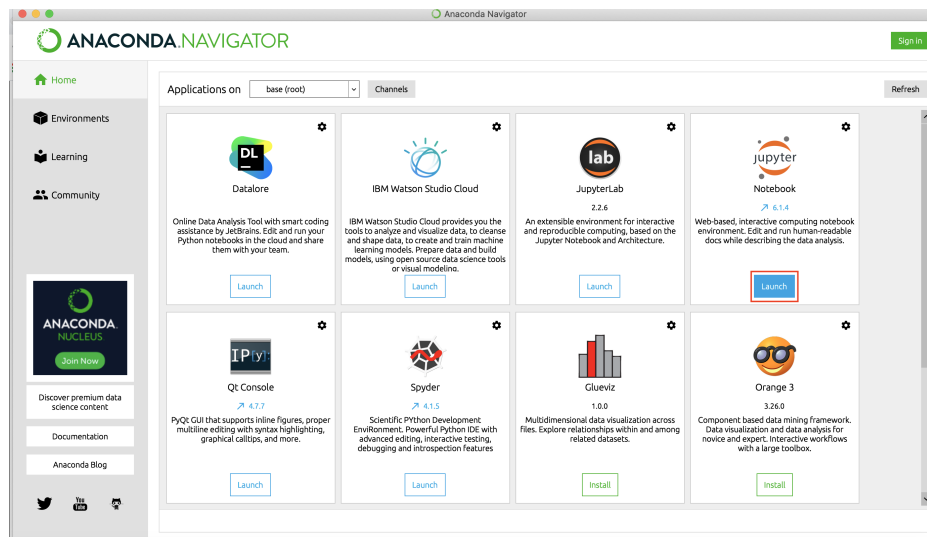
<https://www.cs.mtsu.edu/~xyang/3080/OLA/OLA4.ipynb>

- **Right click** the page.
- Click: **“Save As”**
- Select Format: **All Files**
- **Remove** the extension **.txt**.



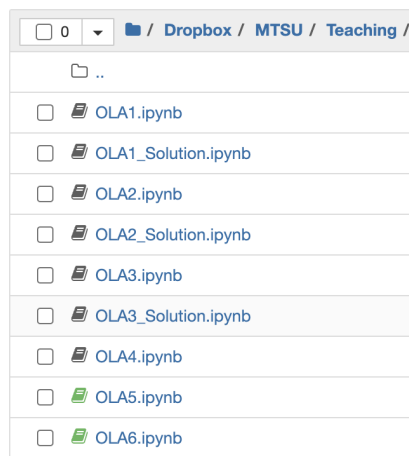
3. Launch Jupyter Notebook

- (1) Open Anaconda.
- (2) Launch Jupyter Notebook through Anaconda.



4. Open Jupyter Notebook OLA4

(1) Locate OLA4.ipynb in your Download Folder.



(2) You should see the following page after you click OLA4.ipynb :

```
File Edit View Insert Cell Kernel Widgets Help
[Save] [New] [Close] [Copy] [Paste] [Up] [Down] [Run] [Stop] [Refresh] [Next] Code [Keyboard]

In [1]: ### CSCI-3080 Discrete Structure
        ### OLA 4: Chapter 5 -- Matrices
        ### Name:
        ### Student ID:
        ### Date:
```

Exercise 1: Find x and y if

$$\begin{pmatrix} 1 & 3 \\ x & x+y \end{pmatrix} = \begin{pmatrix} 1 & 3 \\ 2 & 6 \end{pmatrix} \quad \text{¶}$$

In []:

Exercise 2: Compute A + rD

$$\begin{pmatrix} 2 & 1 \end{pmatrix} + \begin{pmatrix} 4 & -6 \end{pmatrix}$$

- (3) Please fill in your Name, ID, and Date.
- (4) Please finish all 5 exercises in Jupyter Notebook.

4. Save OLA4 as a PDF

- (1) Please save your OLA4 as a PDF after you finish all the exercises. Please **right click** the Jupyter Notebook, then click **Print**, and **save as PDF**.

File
Edit
View
Insert
Cell
Kernel
Widgets
Help

Code

```

In [1]: ### CSCI-3080 Discrete Structure
        ### OLA 4: Chapter 5 -- Matrices
        ### Name:
        ### Student ID:
        ### Date:

```

Exercise 1: Find x and y if

$$\begin{pmatrix} 1 & 3 \\ x & x+y \end{pmatrix} = \begin{pmatrix} 1 & 3 \\ 2 & 6 \end{pmatrix}$$

In []:

Exercise 2: Compute A + rD

$$\begin{pmatrix} 2 & 1 \end{pmatrix} \begin{pmatrix} 4 \end{pmatrix}$$

Back
Forward
Reload
Save As...
Print...
Cast...
Search Images with Google Lens
Send to D54462XYANG
Create QR Code for this Page
Translate to English
View Page Source
Inspect

```

In [2]: ### CSCI-3080 Discrete Structure
        ### OLA 6: Chapter 5 -- Matrices
        ### Name:
        ### Student ID:
        ### Date:

```

Exercise 1: Find x and y if

$$\begin{pmatrix} 1 & 3 \\ x & x+y \end{pmatrix} = \begin{pmatrix} 1 & 3 \\ 2 & 6 \end{pmatrix}$$

In []:

Exercise 2: Compute A + rD

$$A + rD = \begin{pmatrix} 2 & 1 \\ -1 & 0 \\ 3 & 4 \end{pmatrix} + 3 \begin{pmatrix} 4 & -6 \\ 1 & 3 \\ 2 & -1 \end{pmatrix} \quad \eta$$

In []:

In []:

Exercise 3: Compute B·D

$$B \cdot D = \begin{pmatrix} 4 & 1 & 2 \\ 6 & -1 & 5 \\ 1 & 3 & 2 \end{pmatrix} \cdot \begin{pmatrix} 4 & -6 \\ 1 & 3 \\ 2 & -1 \end{pmatrix}$$

In []:

In []:

Exercise 4: Solve the system of equations using Gaussian Elimination

at8888\textbooks\Dropbox\MTSU\Teaching\Fall_2021\CSCI3080 DiscreteStructures\HW\OLA6.ipynb 1/2

Print 2 pages

Destination Save as PDF

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5. Submission

1. log in the gus sytem using your **cNumber** and **Pass-word**:

<https://www.cs.mtsu.edu/cgi-bin/gus/gus.py>

cs.mtsu.edu/cgi-bin/gus/gus.py

Apps fMRI Study--Simu... Big Data, Data Mi... Index of

GUS: Homework repository system start screen.

Please enter your C-number and Password below:

C-number: c8055500

Password:

Enter Help

Clear Entries

2.

- Select **ola4** from the drop-down menu.
- Click **Submit**
- Click **Perform Action**

Action options:

Select an assignment from the dropdown menu and check an action on right:

ola4 (Deadline: 2021-09-24 23:59) Submit Status/Retrieval Perform Action

Reset Back Close

List of current valid assignment identification codes, followed by (if applicable) time stamp and graded status.

Assignment:	Time Stamp:	Status:	Due Date:	Deadline:
ola1	Aug 27 11:08	.	2021-09-12-23:59	2021-09-12-23:59
ola2	.	.	2021-09-14-23:59	2021-09-14-23:59
ola3	Sep 09 11:39	.	2021-09-17-23:59	2021-09-17-23:59
ola4	.	.	2021-09-24-23:59	2021-09-24-23:59

handin command finished.

3.

- click **Choose File** to attach your OLA4.pdf
- click **Upload**.

To submit ola4, upload these required files:

OLA4.pdf
No file chosen

Choose File

OLA4.pdf

OLA4.pdf

Upload

(←Once pressed, wait for next screen. A succesful upload can take a few moments.)

Reset

Back

Close

4. Congratulations! You are done with OLA4!

Preparing ola4 submission of the following file(s):

/tmp/c8055500/*

The following file(s) were successfully submitted:

OLA4.pdf

Sep 14 11:13 c8055500 1031447 bytes

SUCCESS: ola4 submitted.

Check status line above to see if submission was successful.

Back

Close