

## Lecture 8 - Data I/O & Plotting

\* Quiz / AMA / Prayer

### I. Data Files

\* Very often, one is required to deal with data from other sources in a variety of formats.

\* Once we acquire this data, we usually need to manipulate it, and then plot it.

\* Today we will deal with stored in a class of formats called "text files!"

#### \* Text Files

- Data stored as strings / characters.

- You can use a text editor : Text Edit (Mac)  
Note Pad (Win)  
GEdit (Linux)  
to see the data.

- Text files have different formats, i.e. how the data is stored. Format is usually denoted by the file extension.

my\_data.txt ← common format for a text or data file

my\_data.dat

my\_data.csv ← "comma separated value"



\* Typical text file.

|                 |         |       |       |
|-----------------|---------|-------|-------|
| <u>Header</u> → | Name    | Score | Grade |
| values →        | Doug    | 60    | D     |
|                 | Audrey  | 70    | C     |
|                 | Andrew  | 80    | B     |
|                 | William | 90    | A-    |
|                 | Henry   | 100   | A     |

↑  
delimiter: space, tab, comma, etc.

(what separates the data)

- A .txt or .dat usually have tabs or spaces as delimiters
- A .csv always has a comma as a delimiter.

## II. Import and Plotting in Excel and Python

Demo 1 Import and Plot in Excel

Demo 2 Import and Plot in Python

Activity Practice Import & Plotting