భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Biostatistics BT2023

Lecture 4:

Himanshu Joshi 16 August 2022

Plotting using python

Some unix commands

Make a new directory mkdir

wget: wget https://www.dropbox.com/s/qyzru2olt3g95x0/l1.pdf

grep grep India WHO-COVID-19-global-data.csv >ind.txt

sed sed 's/,/ /g' ind.txt >ind1.txt

awk awk '{print NR, $5}' >new_cases.txt

Introduction to Python

Python is an **interpreted**, **object-oriented**, **high-level** programming language with **dynamic semantics**.

Other languages

Advantages

Easy to adapt and debug
Lots of online help is available

SQL

Perl

Tcl

Java

Javascript

Disadvantages
The only annoying thing I found was the updates or new versions but I guess that inevitable

C++

R

Fortran

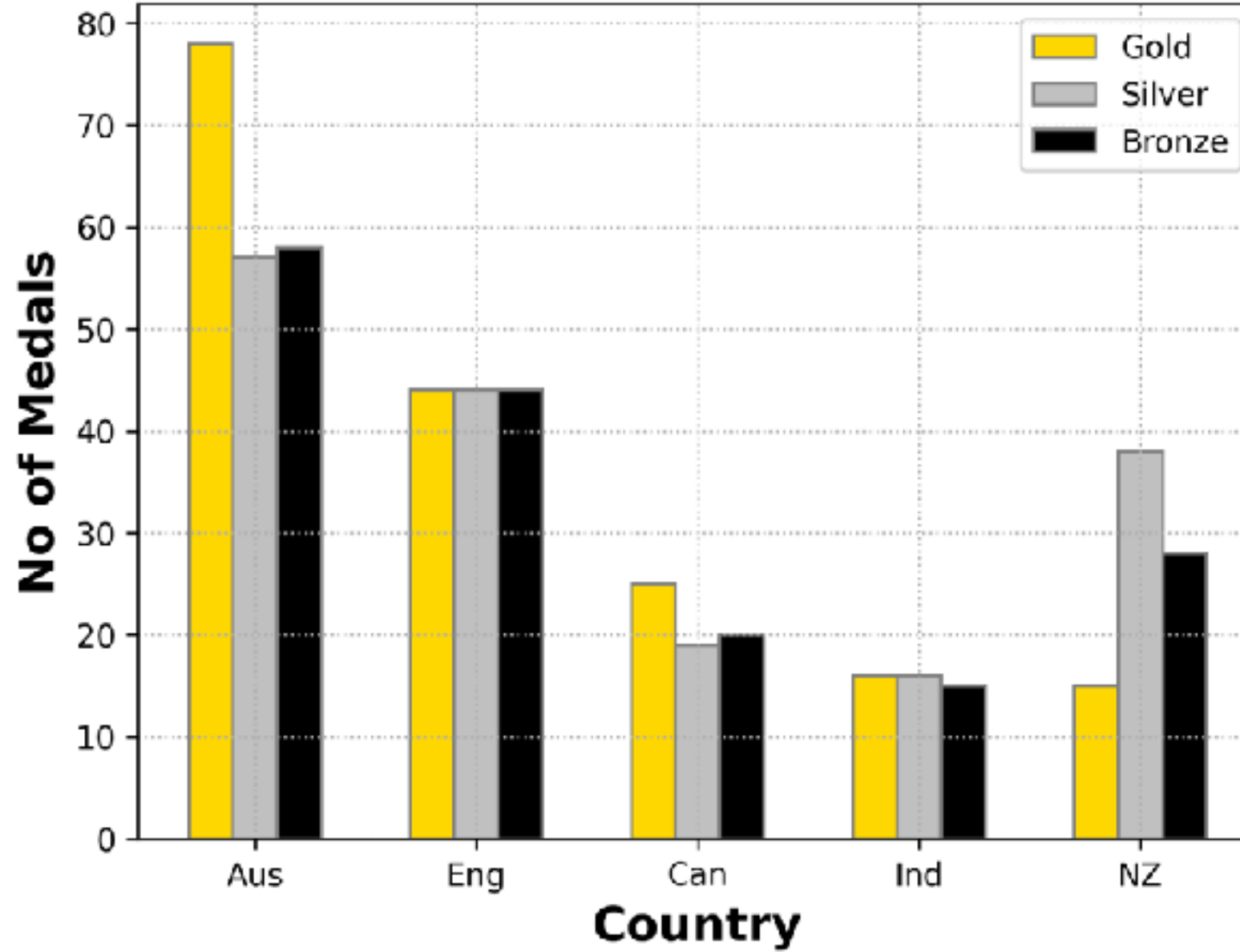# Introduction to matplotlib

Matplotlib is a comprehensive library for creating static, animated, and interactive visualizations in Python.

- Create publication quality plots.

- Make interactive figures that can zoom, pan, update.

- Customize visual style and layout.

- Export to many file formats.

- Embed in JupyterLab and Graphical User Interfaces.

- Use a rich array of third-party packages built on Matplotlib.

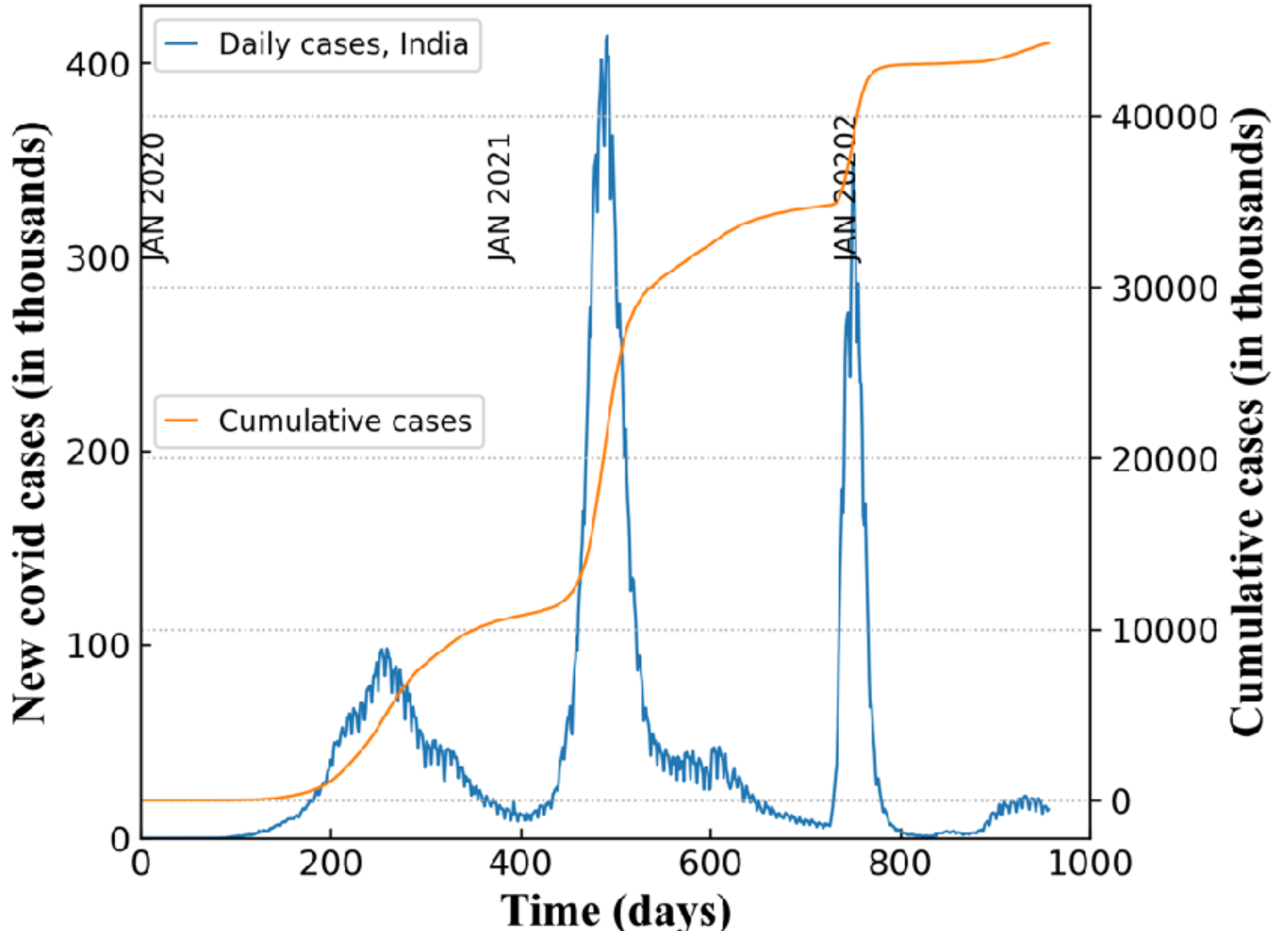**definitions and online help is readily available**

Reference: https://matplotlib.org/

Bar plot

Line Plot

Audience

Where to give advertisement
Who is watching

Log log scale

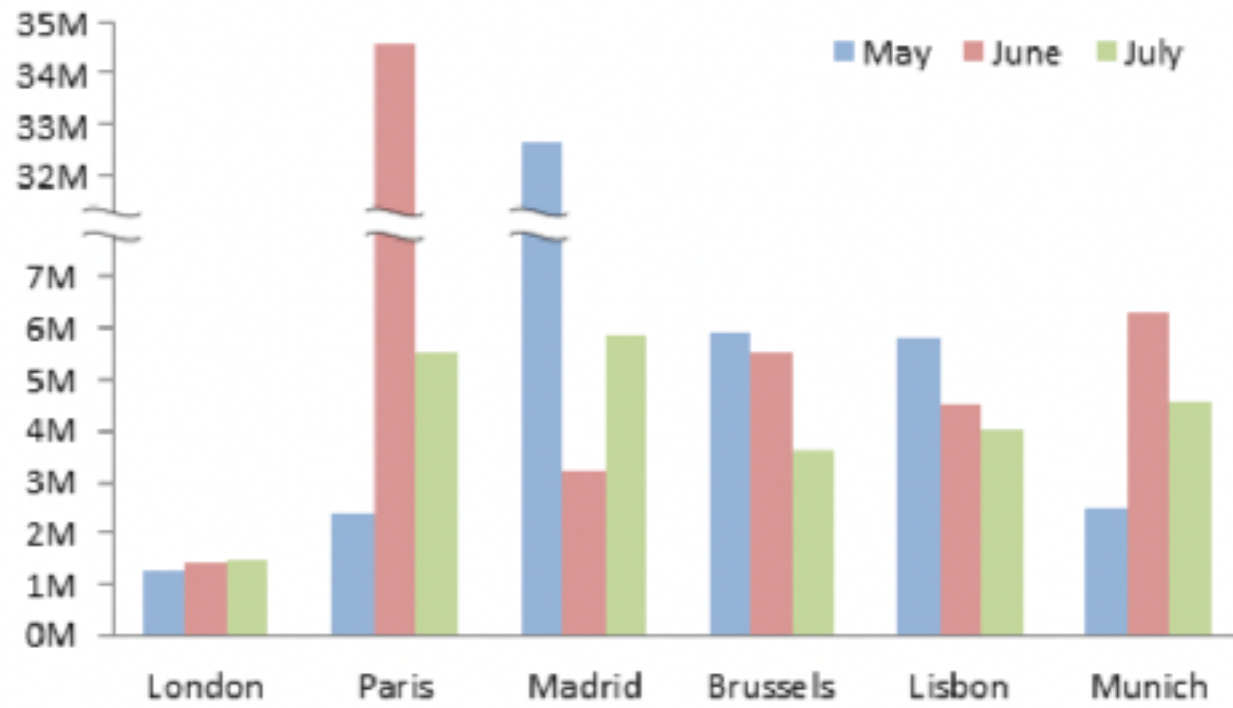# Some plotting software

- GNUPLOT

- MATLAB

- MATHMATICA

- XMGRACE

- ORIGIN

- PYTHON (MATPLOTLIB PYPLOT)

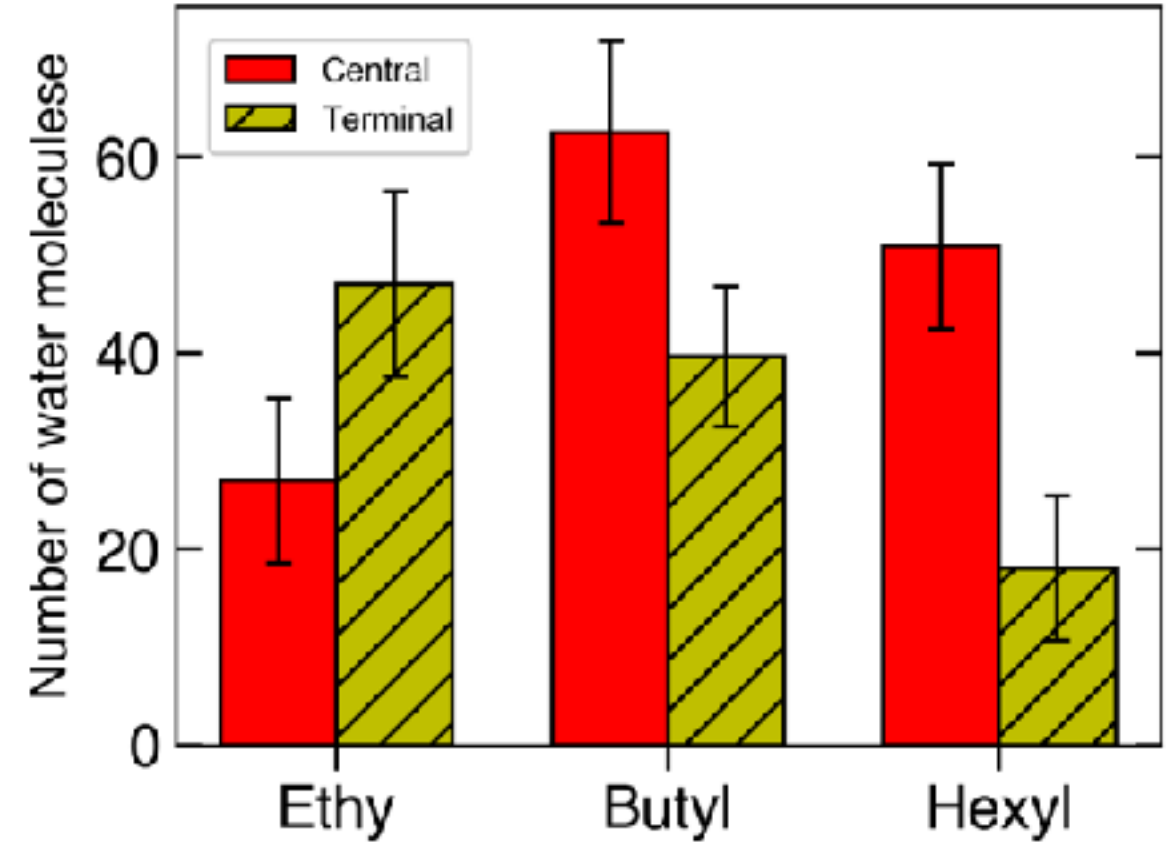# Some more about bar plot

Broken axis

Error bars

Arithmetical mean

y=ax

y=a+x

y=a+cx

Next Class

2:30 PM Friday, 19 August 2022

Measurements of central tendencies