MATLAB Start to Finish

Lectures, code examples, and practice questions for teaching MATLAB for applications in undergraduate chemical engineering classes. This course assumes a functional understanding of coding and draws heavily on a analogy to Python, so any introductory programming class should be sufficient to set you up for this course. Students, as you complete the sample exercises or write MATLAB code relevant to the lessons, feel free to add to the repository via a pull request so that others can learn from your work!

Follow these links to navigate: - Main Page - Lectures - Practice Problems - Code Examples

Included in this repository is an (approximately) 10-week curriculum intended to cover all the essentials of MATLAB, ranging from *"what is the command window?"* up to evaluating partial differential equations symbolically.

Contributing

To contribute to this repository, please provide your materials in markdown format (for lectures) or as *.m* or *.mlx* files (for MATLAB code). PDF's and PowerPoints are difficult to merge.

Markdown also enables the use of in-line syntax highlighting like this:

`matlab myarray = magic(5) for elt = myarray if(elt<20) disp(elt*2) end`

Which is written like this:

````
```matlab
myarray = magic(5)
for elt = myarray
 if(elt<20)
   disp(elt*2)
end
```
````

If you make changes to the Markdown files in the repository, GitHub will automatically recompile the PDFs. This can also be done manually, if need be. Assuming that python is installed, this can be done with the following command in terminal/command prompt: `shell python makePDFs.py`

Resources

- Check out this blog post which walks through introductory MATLAB syntax via analogy to Python.
- Here's an excellent open-source textbook which covers MATLAB for engineering in great detail. A PDF of the book is also provided in this repository.

Notes

If you believe a student has plagiarized code from this repository, we advise you use this tool to check for similarity.

Course taught with the support of the American Institute of Chemical Engineers at the University of Delaware.

Please use and share these teaching materials, but be sure to credit our team:

Lectures: Jackson Burns (personal site)

Practice Problems: Aaron Lam

Debugging Help: Miles Simpson, Jake Kalscheur, Josh Watson, Elizabeth Votta