UCF Physics PHZ 3150: Introduction to Numerical Computing

Fall 2021 Homework 1

Due Thursday August 26 2021

Throughout the class, track the time you spend on classwork in your log, including attending class. If you exceed 6 hours outside of class per week, please note in your log what you got done by that point, what you learned, what you have left, and what is still puzzling or problematic. This will help us gauge the workload in the future, including this semester.

Problems to Hand In: Please follow the file-naming instructions below and in future assignments exactly. This greatly helps with grading!

1. (**10 points**) Choose a home directory (folder) for all class work and notes, and nothing else, on your computer. It should be under your personal space (not in a system area). It should not be too many layers down. It should be easy to type. E.g., */home/yourname/phz3150/* is a good choice, as is *Users/yourname/PHZ3150/* on Windows. You might insert a directory like UCF or classes above the course directory. Usually the first directory is the system directory where all user accounts reside, and the second is your username, which is your real name on some systems. Make this directory and record how you did it.

Follow the instructions on the homework_and_coding.pdf to make your `handin` directory and your `hw1_<yourname>` folder.

2. (**10 points**) Start your log. We have a chicken-and-egg problem, in that eventually you will edit the log in emacs, but you haven't installed that yet, and you should log that installation process. Also, you need to log making the directory for the log, except you already made it in item 1. So, you will need to create the log initially using another program. Choose a text editor (not a word processor like Microsoft Word). For Windows, try Start->Windows Accessories->Notepad. gedit is a good choice under Linux. On Mac, launch Finder->Applications->TextEdit, then immediately, TextEdit->Format->Make Plain Text. Start typing your log (replacing obvious things like your name, the date, and the directory you selected):

```
Jane Doe

Log for PHZ 3150, Spring 2019

*****IN: Mon Jan 7 22:47:07 EST 2019

Made a directory for the class here:

/home/yourname/phz3150/

Opened gedit, started this log, saved as:

/home/yourname/phz3150/0-phz3150-janedoe.log
```

Rule 1 of logs: **NEVER** change anything above the current entry (i.e., a row of stars). Seriously, as a working professional, you may need to swear in court that you have never done it in any log file, ever, even the ones you use for playing around. So, type the top part, then the row of stars and the date, and then never type up there again. Ever. Not even to fix errors.

Start each work session with "*****IN: " and the date in the format above (type "date" to a shell prompt and cut-n-paste it; do it manually until you learn how, following the format above EXACTLY, including spaces).

End each work session with "*****OUT: " and the date in the same format. This lets you (later) write a program to calculate the total time worked. That's useful for filing timecards in future jobs, as well as for our course needs now.

We will discuss more on what to put in your log in class. For now...

3. (**10 points**) Copy and paste the file hw1-survey.txt from Webcourses into your log. Put your answer after each question.

4. (**10 points**) Under your class directory, make a directory called books. Download a PDF file of Think Python into it. You may store other books and similar resources there, as well. Copy-paste the URL you downloaded into your log, as well as the actions you did or commands you typed to make the directory and put the file there.

5. (**10 points**) Close your log entry as instructed above (with "*****OUT: " and the date). Copy your log file in your `hw1_<yourname>` file, zip it and submit your `hw1_<yourname>.zip` in Webcourses.