Software Environment

Python

You are expected to use Python 3.3.2 for this course. We will make an effort to support earlier versions, i.e. Python 3.x. PyPy and other non-CPython interpreters will not be supported.

Download Python Here or install via your package manager.

Text editor

You will need a text editor. See here for a discussion of different editors.

Workspace

Somewhere on your computer, create a folder (directory) entitled `matrix`. All of the code and data files for this course will reside in this folder.

Working on and Submitting Assignments and Labs

You can also watch this video tutorial that walks you through the steps of submitting your programming assignments.

Step one: download the ZIP file. Find a link to download the ZIP file on the instructions for the assignment or lab. Read those instructions carefully.

Step two: unzip the ZIP file. Unzip the files within the ZIP into your `matrix` folder. There should be **no** folders nested within the `matrix` folder.

Step three: open two console windows (also known as terminals, shells, or command-line interfaces). In each, change the working directory to be your `matrix` folder. In one of them, type `python3` to start the Python REPL. This initiates a session in which you can interact with Python. The other should *not* be running Python; from this other, you will run the submission script (detailed below).

Step four: edit the stencil. Use a text editor such as emacs to open the stencil file corresponding to this assignment. For example, for the first lab ("Python Lab"), it is the file `python_lab.py`.

Step five: read the assignment. Print or view the PDF file that came in the ZIP you downloaded. Read through the problems within.

Step six: complete the assignment. We recommend that you play around in the Python REPL to find solutions, then enter them into your stencil. A week or so into the course, you might prefer editing the stencil directly and then copying and pasting into the Python REPL, or importing the stencil into your Python session.

Step seven: submit. You can submit a lab or assignment as many times as you like before it's due. You can submit partially-incomplete assignments. You can submit one part at a time, several parts, or whole ranges. To submit, run the corresponding submission script. For example, for the first lab, it is

`submit_python_lab.py`. Running this script will prompt you for the email address on your Coursera account and your *one-time* password (which you can find here). Here's an example session where I submit problems 1, 2, 4, 8, and 16:

```
matrix $ python3 submit_python_lab.py
==
== Submitting Solutions
==

Login email address: your_email@example.com
One-time password from the assignment page (NOT your own account's password): 7
E!*FHa3Y

== Connecting to Coursera ...

These are the assignment parts that you can submit:

  1) Minutes in a Week
  2) Remainder
  3) Divisibility
 ... [elided for conciseness] ...
  29) dict2list
  30) list2dict

Which parts do you want to submit? (Ex: 1, 4-7): 1,2,4,8,16
... [ output elided ] ...
```

Advanced Submission

It can be tedious to type in your email address and one-time password each time you submit. If you know how, you can set the environment variables `COURSERA_EMAIL=your_email@example.com` and `COURSERA_PASS=your_one_time_pass`, and the submission script will use these instead of prompting for your input. For example, in bash you might run:

```
COURSERA_EMAIL=me@example.com COURSERA_PASS=swordfish python3 submit_python_lab
.py
```

Versions of the submit script for assignments in Week 1 and onward have even more features.

```
$ python3 submit_politics_lab.py --help
usage: submit_politics_lab.py [-h] [--email EMAIL] [--password PASSWORD]
                              [--colorize] [--verbose] [--https | --http]
                              [tasks [tasks ...]]

positional arguments:
```

```
  tasks                 numbers or ranges of tasks to submit

optional arguments:
  -h, --help            show this help message and exit
  --email EMAIL         the email address on your Coursera account
  --password PASSWORD   your ONE-TIME password
  --colorize            use ANSI color escape sequences
  --verbose             show the test's interaction with your code
  --https               use an encrypted connection to Coursera
  --http                use an unencrypted connection to Coursera
```

Problems?

If you follow these instructions and still have trouble submitting your assignment, post a message in the appropriate Homework or Lab discussion forum. If you think that there is a technical problem that is affecting your ability to submit an assignment, please post in the Technical Feedback forum instead.

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