CMPSC-122: Intermediate Programming
Spring 2018

Homework 0

Due Date: 01/15/2018

Overview

This assignment will get you started with the basic tools needed to complete homework and some exercises. The main goal of this assignment is to ensure that you have correctly installed Python 3 in your computer. In addition, it will give you practice (or remind you) using a text editor to write Python programs, compiling and running Python programs, and identifying and locating an error. IMPORTANT: You must use the command line and a text editor to edit, compile, and debug your Python code.

Section 1. Setting Up Your Computer

You are a CMPSC 122 student who needs to install Python, configure it for command line use, and learn how to use a text editor to create and edit Python source code.

1. Download the latest Python 3 installer for your operating system at https://www.python.org/downloads or download Miniconda (recommended) at https://conda.io/miniconda.html, just be sure to get the Python 3 version.
2. Once Python (or Miniconda) is installed, you need to ensure that you can run it from the command line, (the `python3` executable should be on your `path`). For Miniconda users refer to https://conda.io/docs/user-guide/install/index.html. If you run Linux or Mac OS X, it probably works and you don't need help with this. If you run Windows:
   - If your shell is open, close it.
   - Go to the control panel, however you do that on your version of Windows.
   - Go to System and select "Advanced System Settings" where you will click on the button labelled "Environment Variables"
   - In the Environment Variables dialog find the Path variable under system variables (not user variables). Select it and click the "Edit" button below.
   - In the Edit dialog box, click on New and type the location of your python installation (if you accepted the defaults when you installed Python it should be C:\Python3X\ or C:\Users*usr*\Miniconda3\).
3. Check your Python installation, open a terminal (or run *cmd* on Windows) and at the command prompt type `python3 --version` (`python --version` on Windows). You should get a response like `Python 3.5`
4. Download and install a programmer's text editor. You may end up trying out several over the course of the semester before you settle on one. Emacs is the popular choice among young programmers (http://www.gnu.org/software/emacs/), but if you can't get used to Emacs, SublimeText (http://www.sublimetext.com/) is a good choice for beginners.
5. From the terminal, create a directory for your coursework somewhere in your hard disk (i.e. cmpsc122) using the command `mkdir cmpsc122`. Enter the new folder using the command `cd cmpsc122` and create a subdirectory named `hw0`
6. Enter to the *hw0* folder and create the file *hw0-output.txt* (`> hw0-output.txt` for Linux and Mac, `type nul > hw0-output.txt` for Windows)
7. Download `messages.py` to your *hw0* directory. (…cmpsc122\hw0\messages.py)

Section 2. Python Program

1. Open your text editor and create a file in your *hw0* directory named `favorite_ice_cream.py` and enter the Python program given bellow:

```
def favorite_ice_cream():
    ice_cream_flavors = [
        "Death by chocolate",
        "Arboretum Breeze",
        "Bittersweet Mint",
        "Cookies-N-Cream"
    ]
    print(ice_cream_flavors[3])

favorite_ice_cream()
```

2. On the command line, type `python favorite_ice_cream.py` (or `python3 favorite_ice_cream.py`) to run the program and see its output. Make sure you are in your *hw0* directory.
3. Add the output of your program to the file *hw0-output.txt* by typing:

```
python favorite_ice_cream.py >> hw0-output.txt
```

Section 3. Code Error

In Section 1, you downloaded the file `messages.py` into your *hw0* directory. This file contains some sort of error.

1. Attempt to compile and run `messages.py`, from your *hw0* directory type `python -m py_compile messages.py` for compiling and `python messages.py` for running.
2. At some point during this process you will encounter some sort of error. Read all errors carefully and determine where in `messages.py` the error was originated (identify which line caused the error). During the course of the semester, you will encounter errors as you work through homework and exercises for this class, so it is important to understand what the error means and how to fix it.
3. Open the *hw0-output.txt* file from Section 2 in your text editor. At the bottom of the file, add two lines: on the first line write whether the error occurred during compilation or runtime, and on the second line write the line number that caused the error followed by the line itself. For example:

    runtime
    line 1. def print_message(day):

Deliverables

Submit your *hw0-output.txt* file on Canvas as an attachment to the HW0 assignment.