CSSE 304 Assignment 0 Updated for Spring, 2016

Deliverables (Details below)

- Submit the 0.ss file to the PLC server. Due **first day of class** at 11:59 PM. (see step 7 on page 2 of this document).
- Subscribe to the CSSE 304 Piazza class by **first day of class** at 11:59 PM. https://piazza.com/class/idodnokfyxw24j .
  - I suggest setting your email notifications to "Real time" for new questions and updates, and perhaps also check "Automatically follow …". To get to these settings, click on the triangle at the far right of the Piazza bar at the top of the page.
- Bring your completed hand-in sheet (Word or, PDF) to the **second class meeting**. You may
  - complete it electronically and print it, or
  - print it and complete it by hand.

  Word and PDF versions of the hand-in sheet are linked from the schedule page.

Abbreviations for the textbooks EOPL - Essentials of Programming Languages, 3rd Edition
TSPL - The Scheme Programming Language, 4rd Edition (available free scheme.com)
EoPL-1 - Essentials of Programming Languages, 1st Edition
(small 4-up excerpt handed out in class, also on Moodle)

In case you are unable to follow some of the links in this document, many of the files are in the http://www.rose-hulman.edu/class/csse/csse304/201630/Homework/Assignment_0/ folder.

All three books have numerous exercises. You should read and give at least a little bit of thought to all of the exercises in the chapters that we cover, and actually work out as many as time allows. Some of the exercises contain information that is crucial to understanding the later material in the text. Of course I won't require you to hand in all of the exercises in the books, but you should think about them (in addition to helping you learn the material, some of them make excellent questions for the exams!).

"Scheme consultants" will be available in Percopo or the CSSE lab (F-217) at specified times. The consultants can help you with installation, programming environment, language concepts, Scheme details, and specific issues from the assignments. A link to the list of available times will be posted on the schedule page (Session 1). These times will hopefully begin the evening before class Day 1. I hope to have the entire first week's schedule posted before the Day 1 class.

If you have trouble installing and using Petite *Chez* Scheme, or if you don't understand something that you read about Scheme or encounter when you experiment with Scheme, the consulting hours are one possible source of help. You can also get help there with assignments or the course in general.

See the Assignment 0 FAQ. It contains answers to some questions asked by students in the past.

Overview: Main activities for this assignment (in order of importance; you may actually do them in any order) **Detailed list below.**

1. Experiment with Scheme.
2. Read about Scheme.
3. Bookmark schedule page http://www.rose-hulman.edu/class/csse/csse304/201630/Schedule/Schedule.htm in your web browser, so you can go there with a single click. You will go there frequently this term.
4. Try out the grading program that allows you to check your code for correctness before it is due.
5. Install Scheme (and possibly Emacs) on your laptop.

As you do these activities, **complete the Assignment 0 Hand-in Sheet**, available from the schedule page (Session 1) in Word and PDF forms. I will also hand out a printed copy in the Day 1 class. You can either fill that in by hand or fill in the on-line version and print it, whichever is easier for you.

Detailed list of things to do:

1. Find and bookmark the course schedule page (the link is in the main activities section above, and also on Moodle), which is the page you'll use most often in this course. It contains links to most of the other course web pages. Browse around to become familiar with what is there. If you have not read the Syllabus (linked from the schedule page), do so now.

2. Install Petite *Chez* Scheme on your computer. Instructions are in the syllabus.

3. (If you wish) skim the document on Scheme and Emacs (linked from the schedule page).

4. Connect to **sliderule.csse.rose-hulman.edu** using an *ssh* program (such as SecureCRT or puTTY), You'll need your Rose-Hulman network password to do so. After logging into sliderule, type **petite** to start Petite *Chez* Scheme version 8. For now, just make sure you can run Scheme on sliderule. If you wish, try entering a few Scheme expressions from the day 1 class. When you want to quit Scheme, type **(exit)** (include the parentheses) followed by the *Enter* key. (You can also quit by typing [ctrl]-d)

5. Experiment with Scheme. On a networked machine or on your own computer, enter some Scheme expressions, like those in http://www.rose-hulman.edu/class/csse/csse304/201630/Resources/Day01-scheme-intro.ss (may not be there until after the day 1 class) and some from the textbooks. For each example, try to predict Scheme's response before you press Enter.

6. Skim Chapter 1 and then carefully read first three sections of Chapter 2 of TSPL (http://www.scheme.com/tspl4). You may want to look at the Assignment 0 hand-in sheet before you read from the book so you'll know some things to be looking for. There are a few questions whose answers can be found in the reading. You should not expect to understand everything you read in Chapter 1 the first time you read it. But it will give you an idea of some of the programming language concepts we will be studying, and how they work out in Scheme.

It is a good idea to actually type in and execute some of the Scheme expressions that you find in Chapter 2. Try variations of some of the Scheme expressions from the textbook. Predict what will happen, then evaluate the expression. If your prediction was wrong, that is an area that you will need to work to understand, and perhaps to discuss with me or with one or more classmates.

You should also consider Exercises 2.2.1-2.2.8, 2.3.1, 2.4.1-2.4.3, and 2.5.1. You do not have to write them up or turn them in at this point. You can check your answers to most of them by entering them in Scheme and looking at the output.

7. Try out the automatic grading program. This program is student-written. If the server is ever down, send email to csse304-developers@rose-hulman.edu.

- Download 0.ss file from the Assignment_0 folder.
- In your web browser, go to https://plc.csse.rose-hulman.edu/ .
- Bookmark that page; you will need to go there dozens of times this term.
- Login with your normal Rose-Hulman password.
- If the A0 assignment tab is not already highlighted at the top, click it. Then click **Browse**, and browse to the 0.ss file that you downloaded.
- Click Upload. (If you get an error message, try clicking your browser's **Back** button to see the results. Sometimes then pressing Regrade fixes it. You should get a perfect score.

8. Optional: Get ahead by reading the first part of the EOPL-1 excerpt (handed out in class, on Moodle, and sent to you in email before the class began). Again, interactively try out some of the Scheme code there. If you don't get to read it before Day 2, do so before doing Assignment 2 (Due on Wednesday in the spring term, Monday in the fall term).

Coming: Assignment 1 (**due Day 2 at 11:59 PM**) will include a few non-recursive procedures that you are to write, test, and submit electronically to the PLC server.

Optional, but highly recommended (within the next few days):
Install the Gnu Emacs editor on your laptop computer (If you are running Linux or OSX, Emacs should come pre-installed with the OS). Instruction details are here, **emacs.el** file is here.

Optional: Try the Emacs editor.

See the *Emacs and Scheme* document (a few things are obsolete but I am working on it) for details. Spend a few minutes on the tutorial; come back to it when you have time. Many of the commands may be found in the Emacs menus; you do not have to learn the special key sequences for them right away. You are not required to learn Emacs for this course, but I recommend that sometime soon you invest a couple of hours to see what it can do for you. I think that investing time now will give you a big payoff as the course progresses, and it will be a valuable tool throughout your programming career. If you do decide to learn Emacs, you should eventually learn the key sequences for common commands; they will save you time in the long run.

Reminder of deliverables:

Complete the **Assignment 0 Hand-in Sheet** and turn in hard copy at the beginning of the Day 2 class.
Submit **0.ss** on the PLC server
Go to **piazza.com** (https://piazza.com/rose-hulman/spring2016/csse304) and configure your email settings for the CSSE 304 class.