CS 6591 Project #1 Prelab Winter 2017

Objectives

Get comfortable with Python and the SimPy simulation library.

Install the Anaconda Python Environment manager, and the SimPy simulation package, and learn to use them.

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1. Download and install the Anaconda data science platform. Specify Python version 2.7 and the appropriate OS. It is available here: https://www.continuum.io/downloads
2. Complete the Anaconda Test Drive in which you create environments and learn to manage packages. (Note: I had to download the third version of bottleneck maybe because I am using Win32. The iopro package must be installed under the snowflakes environment rather than the bunnies environment since it is not compatible with python 3.6. Don't remove the conda application at the end either.)
3. Search the Anaconda Cloud for simpy and install simpy 3.0.5 in your snowflakes environment.
4. From the Anaconda Navigator, start up the Spyder IDE.
5. Complete the SimPy exercises in the "SimPy in 10 Minutes" tutorial: http://simpy.readthedocs.io/en/latest/simpy_intro/index.html
6. You can also learn to use the ipython graphical shell and jupyter QTConsole (already installed as part of Anaconda.) if you're interested. http://ipython.org/ http://qtconsole.readthedocs.io/en/latest/
7. While we will only be doing very simple Python programming, it would be worthwhile to read through a Python tutorial (a couple are given below.)

As you complete the steps above, record the following values:

a) What are the names of the environments available after your Anaconda Test Drive?
b) What command did you use to install SimPy?
c) At what times did your car simulation issue "start parking" statements?
d) What are the semantics of "yield" in SimPy?
e) How do you obtain SimPy Resources? How do you free them back up?
f) How do you define a function in Python? Give an example.
g) How do you make the classes provided in library modules available in the current module?

Notes:

Anaconda documents: http://conda.pydata.org/docs/using/index.html
Python tutorial (version 2.7): https://docs.python.org/2.7/tutorial/
Python tutorial (version 3.6): https://docs.python.org/3.6/tutorial/
Presentation on DES and SimPy: http://www.slideshare.net/pycontw/introduction-to-simpy
SimPy docs: http://simpy.readthedocs.io/en/latest/contents.html

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Grading:

You need to submit by the due date:

- The answers to the questions above.
