Python Data Science Training Homework — Automation and Functions

You may have already completed some or all of the following list depending on how many examples you did in class, so it's expected that some people will finish this whole list in an hour, while others may only complete part of it. That's totally fine—just do as much as you can in the next week (you can charge up to an hour to the data training charge code), and bring whatever you've done so far to the workshop. If you come to the workshop with the list finished, we'll give you something else to run through. If you haven't, we'll help you keep working on it.

1. Complete example 1 (the Rock Paper Scissors program) from class
2. Complete the following interactive list comprehension tutorial, including the exercise at the end:
   - https://www.learnpython.org/en/List_Comprehensions
3. Complete the second example from class
4. Read up on lambda functions, and complete the third class exercise:
   i. https://www.programiz.com/python-programming/anonymous-function
      - (Note the links to more examples at the end of the article)
   ii. http://www.secnetix.de/olli/Python/lambda_functions.hawk
5. Complete the following interactive Classes and Objects tutorial, including the exercise at the end:
   - https://www.learnpython.org/en/Classes_and_Objects
6. Familiarize yourself with the vocabulary of classes and objects here (optionally, you can also look through these examples as well):
   - https://www.tutorialspoint.com/python/python_classes_objects.htm
7. Edit your Rock Paper Scissors program (from exercises 1-3) so that instead of using a list for each round to hold the round data, you use objects from a class you define called "Round" with class variables computer_choice, user_choice, and whatever you named your variable to indicate whether the user won or lost that round. Change your list of round data to hold each round object you create, and alter your list comprehension / lambda function to filter based on the class variable.
8. Optional: Complete the fourth exercise from class, where you write to and read from a file. An example of this is in the class notes which were given out with this homework.