Anton Krotenok (NETID: ak1847)

Kevin George (NETID: kmg328)

1. Team details: Clearly state the names and netids of your team members (there are 2 of you).

**Anton Krotenok (NETID: ak1847)**

**Kevin George (NETID: kmg328)**

**NOTE: The current logout button does not implement the logout functionality that is described in the extra credit portion of the assignment. By order of the instructions for test case 1-10, cookies are successfully saved and stored into the machine for later use (ie. using a different username/password combo does not change the login page due to the fact that the logout functionality was not implemented nor required)**

2. Collaboration: Who did you collaborate with on this project? What resources and references did you consult? Please also specify on what aspect of the project you collaborated and consulted?

**Both partners utilized past knowledge from classes including Computer Architecture, Software Methodology, and Principles of Information and Data Management. To better understand the functionality of Python dictionaries, we looked for documentation on websites including “Stack Overflow” & “docs.python” .**

3. Is there any portion of your code that does not work as required in the description above? Please explain.

**There is no portion of our code that does not work as required in the description above.**

4. Did you encounter any difficulties? If so, explain.

**The most difficult task we had was understanding how you (the instructors) wanted us to implement the cookies. Without the logout extra credit, the only purpose we saw for the cookies was that if you (1) logged into the site, then (2) closed the tab, and (3) reopened it, you would still be logged into the system. Some other difficulties we had involved ordering the instructions in Step 6: we needed to check for cookies and potential valid usernames/passwords in a specific order. Checking cookies on the initial startup was a challenge (ie. required us to correctly implement the main while() loop). When the code first runs the login page, the cookie header can either exist or not, but sometimes when it does exist on the first attempt of opening an html file, there is no saved cookie for it. This causes issues when you have to check for a cookie that doesn’t yet exist in the cookie data structure.**

5. Describe **two** observations or facts you learned about HTTP and cookies in the process of working on this project. Please be specific in your response.

1. **The time it takes to validate cookies is significantly less than the time it takes to search for a username and password (via a long list). By theory, cookies are already saved into the machine and thus need only to be “grabbed” and not “searched” (even if you utilize a hash-like data structure).**
2. **It is more convenient for the client to be automatically logged in (via the use of cookies) as compared to being forced to relogin with the same credentials. This saves time for both the user and the server (hardware capabilities).**