

**Objective:**

The goal of this program was to take a previously developed website and add an update password page, additional security to password, and user logger. This was accomplished by using several modules from the python community and library. This site starts on a generic page with a REGISTER button, CLICK ME button and DON'T CLICK ME button.

The changes here were accomplished by creating a function named update\_pw, log\_attempt, and verify\_pw. By using the data from the register function and then comparing them, the above assignments were accomplished.

**Log File Update:**

This lab required the use of log files. This is a useful tool in creating a strong and secure site. One possible way this could be used to secure a site is for logging in. If there are multiple requests for login, and failures, it could be a sign of an unauthorized user trying to gain access to the site. This is especially true if it is happening very quickly such as a brute force attempt.

**NIST Complexity:**

The current NIST guidance for a strong password is a length of at least 8 characters, the removal of hints to a user, two-factor authentication and password managers, and hashing. In this project these were especially accomplished by setting strong password guidelines such as ensuring the password is 12 characters minimum, contains both upper and lower case letters, includes numbers and special characters. The password is also hashed using sha256\_crypt.

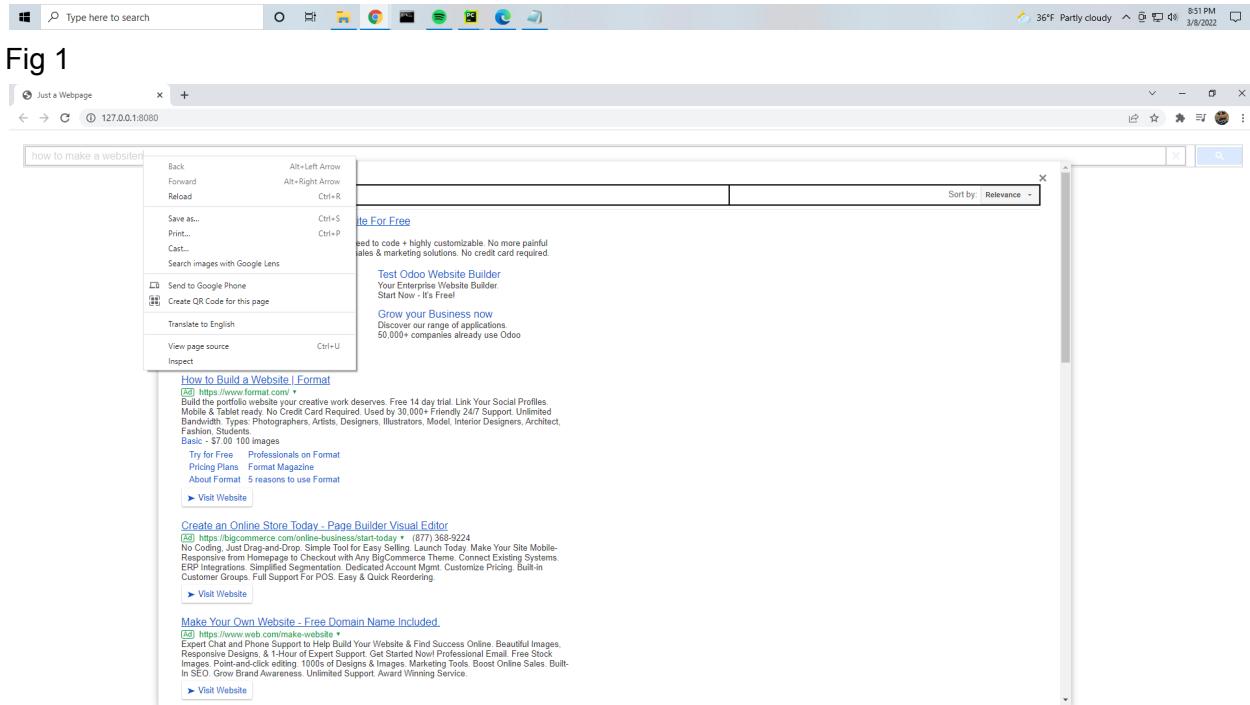
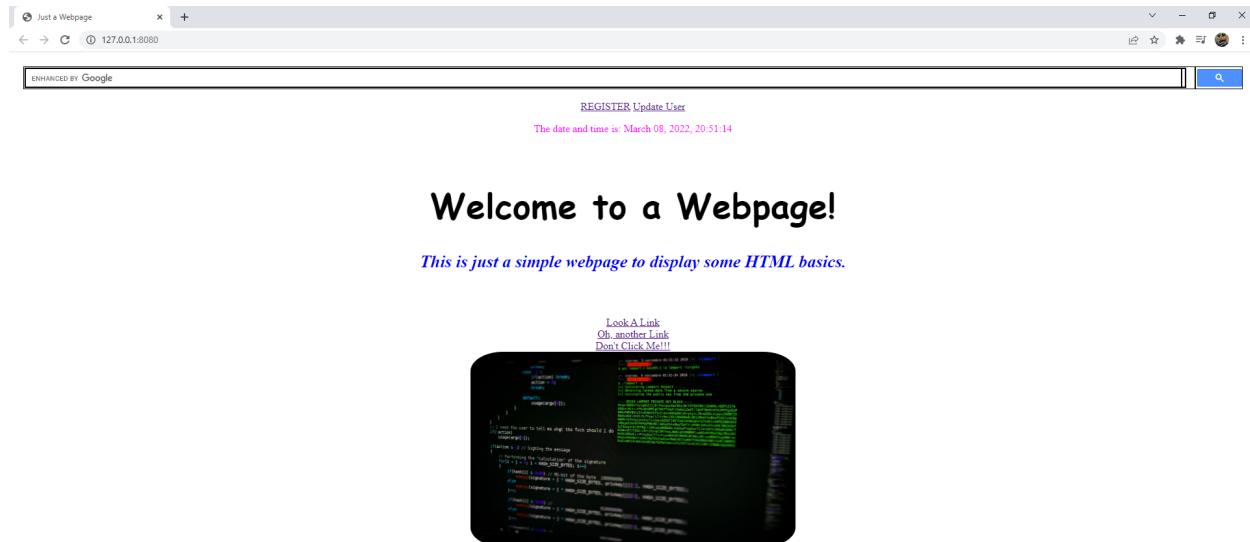
**Test Cases:**

<b>Test Cases:</b>	<b>User Input:</b>	<b>Predicted Output:</b>	<b>Actual Output:</b>	<b>Pass/Fail:</b>
1	navigate to 'localhost:8080'	show 'Just a Webpage'	show 'Just a Webpage'	pass, fig 1
2	how to make a website' in google bar	bring up page showing results	bring up page showing results	pass, fig 2
3	click 'REGISTER'	redirect to 'User Registration'	redirect to 'User Registration'	pass, fig 3
4	Enter first name 'Bart', last name 'Simpson', Username 'El-Barto', email address 'ElBarto1@springfield', password 'E1B@rt0Sprin	Error: 'Verify email format. Try again.' Clear field.	Error: 'Verify email format. Try again.' Clear field.	pass, fig 3

	gfield'			
5	Enter first name 'Bart', last name 'Simpson', Username 'El-Barto', email address 'ElBarto1@springfield.com', password 'E1Bart0'	Error: 'Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character.'	Error: 'Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character.'	pass, fig 4
6	Enter first name 'B', last name 'Simpson', Username 'El-Barto', email address 'ElBarto1@springfield.com', password 'E1B@rt0Springfield'	Error: 'Verify first name. Try again.'	Error: 'Verify first name. Try again.'	pass, fig 5
7	Enter first name 'Bart', last name 'Simpson123', Username 'El-Barto', email address 'ElBarto1@springfield.com', password 'E1B@rt0Springfield'	Error: 'Verify last name. Try again.'	Error: 'Verify last name. Try again.'	pass, fig 6
8	Enter first name 'Bart', last name 'Simpson', Username 'El-Barto', email address 'ElBarto1@springfield.com', password	redirect 'User Login', display 'Register Successful'	redirect 'User Login', display 'Register Successful'	pass, fig 7

	'E1B@rt0Sprin gfield'			
9	user: ElBarto pw:E1B@rt0Sp ringfield	refresh, display 'Login Successful'	refresh, display 'Login Successful'	pass, fig 8
10	click 'MAIN'	redirect to 'Just a Webpage'	redirect to 'Just a Webpage'	pass, fig 9
11	click 'Look a Link'	redirect to 'Look a Link' page	redirect to 'Look a Link' page	pass, fig 10
12	click 'Oh, another Link'	redirect to 'Oh, another Link'	redirect to 'Oh, another Link'	pass, fig 11
13	click 'Update User'	redirect to 'Update Password'	redirect to 'Update Password'	pass, fig 12
14	user: ElBarto pw:password	Error: 'Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character.'	Error: 'Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character.'	pass, fig 13
15	user: ElBarto pw: P@55w0rd123 4 repass: P@55w0rd123 4	redirect to 'login' display 'update successful'	redirect to 'login' display 'update successful'	pass, fig 14
16	user: ElBarto pw: P@55w0rd123 4	refresh, display 'Login Successful'	refresh, display 'Login Successful'	pass, fig 15
17	click 'Main'	redirect to 'Welcom to a Webpage'	redirect to 'Welcom to a Webpage'	pass, fig 16
18	click 'Look a Link'	redirect to 'Look a Link' page	redirect to 'Look a Link' page	pass, fig 17

Below are images associated with test cases:



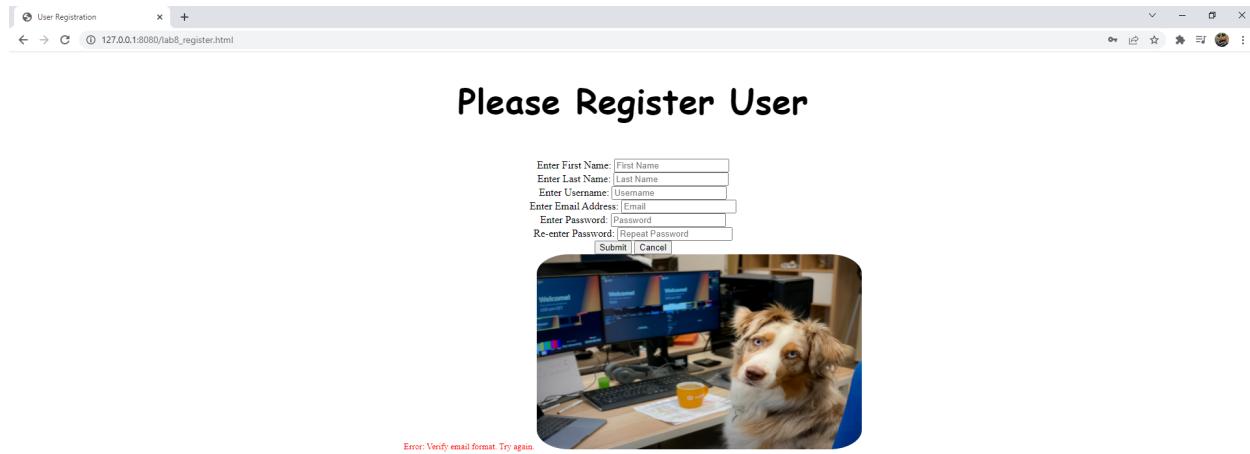


Fig 3

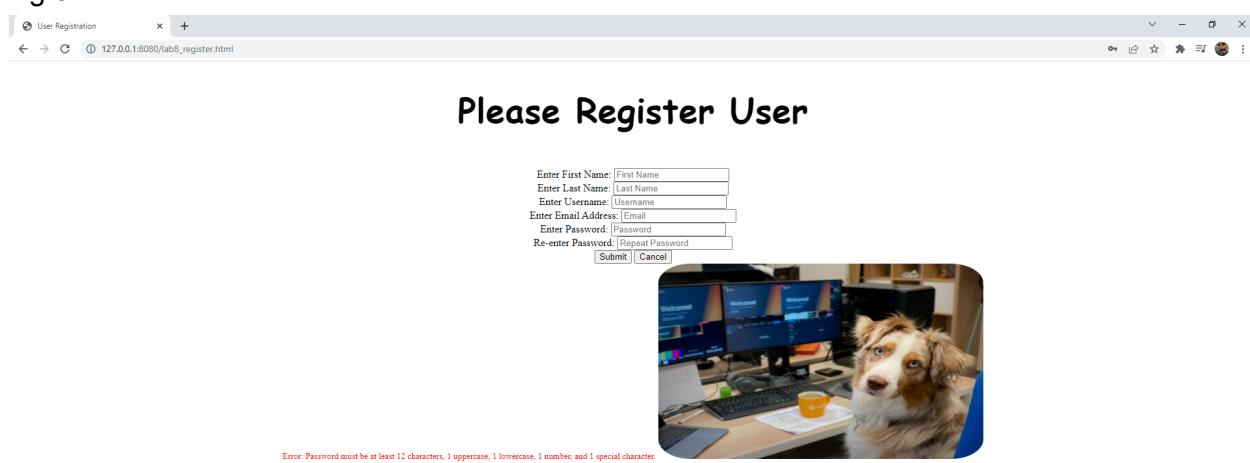


Fig 4

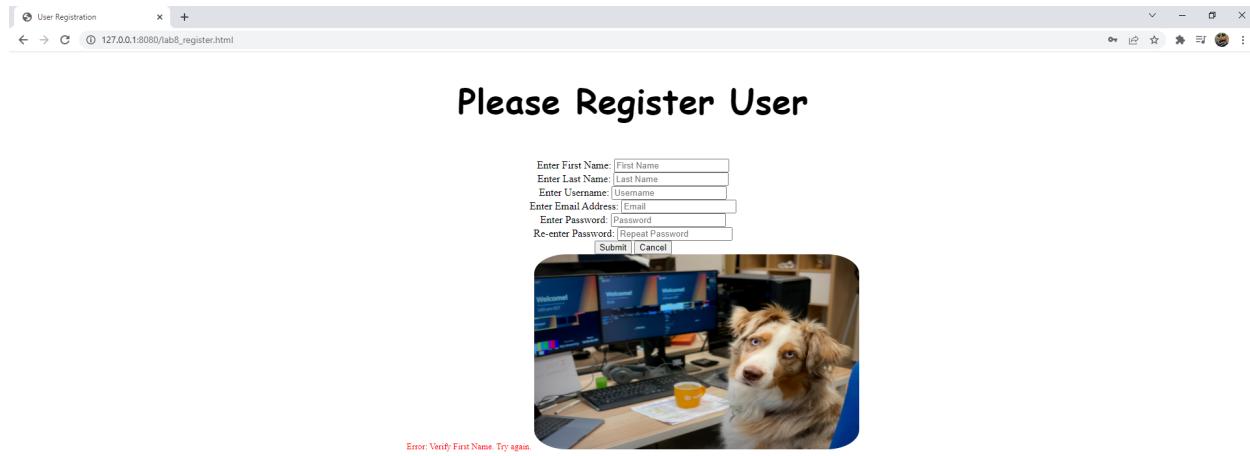


Fig 5

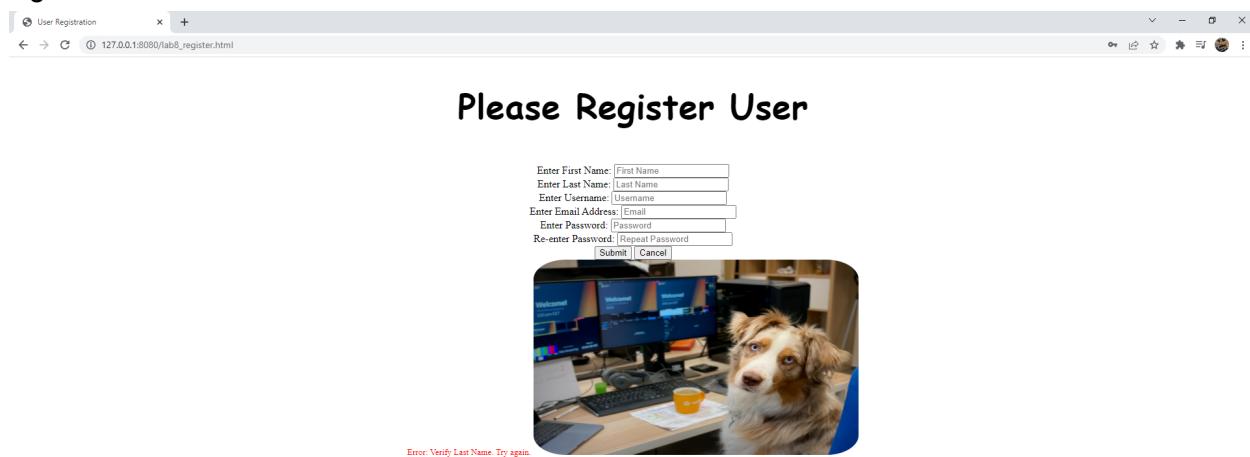


Fig 6



Please login

Username:  Password:

[Login]

• Register Successful!



Fig 7



Please login

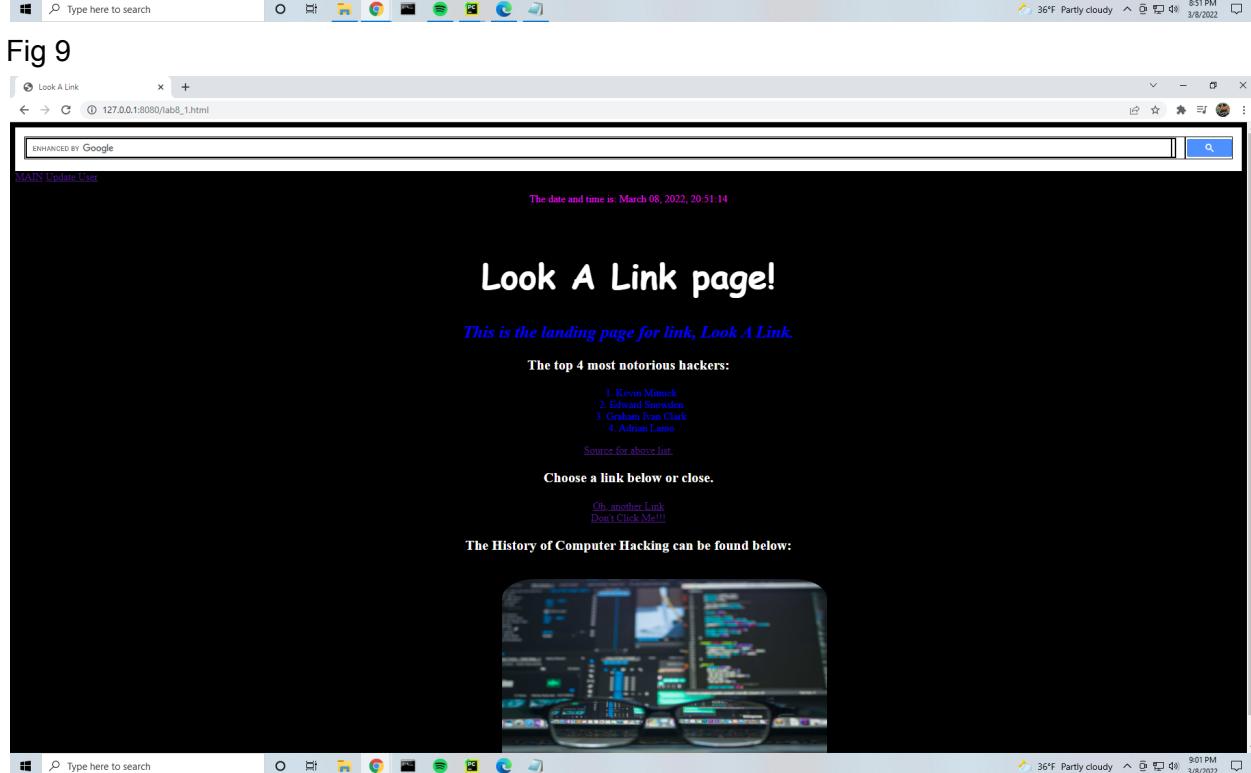
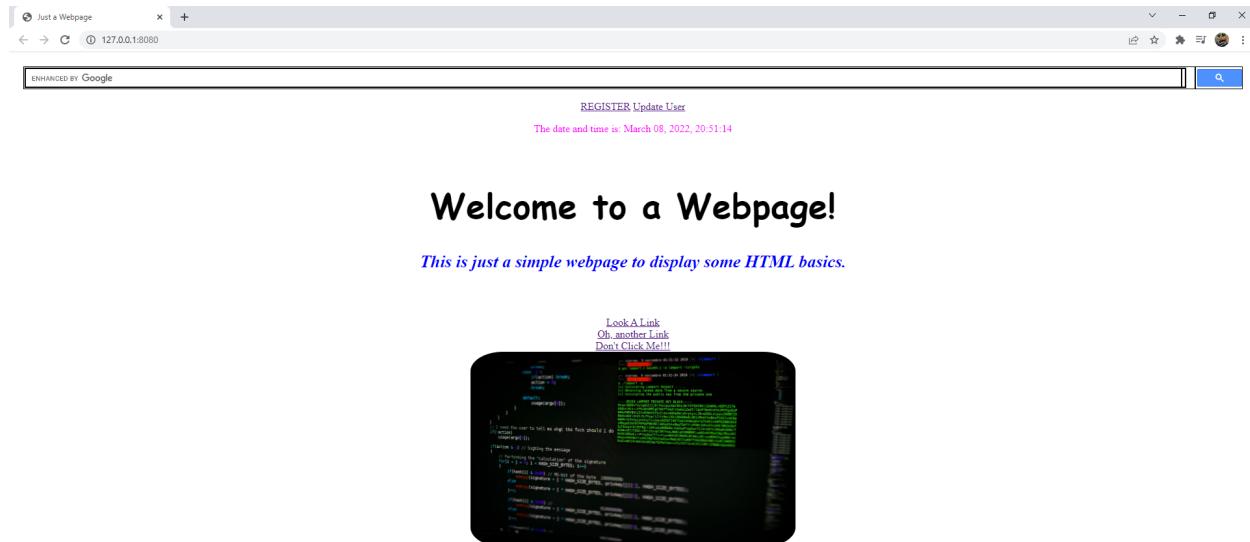
Username:  Password:

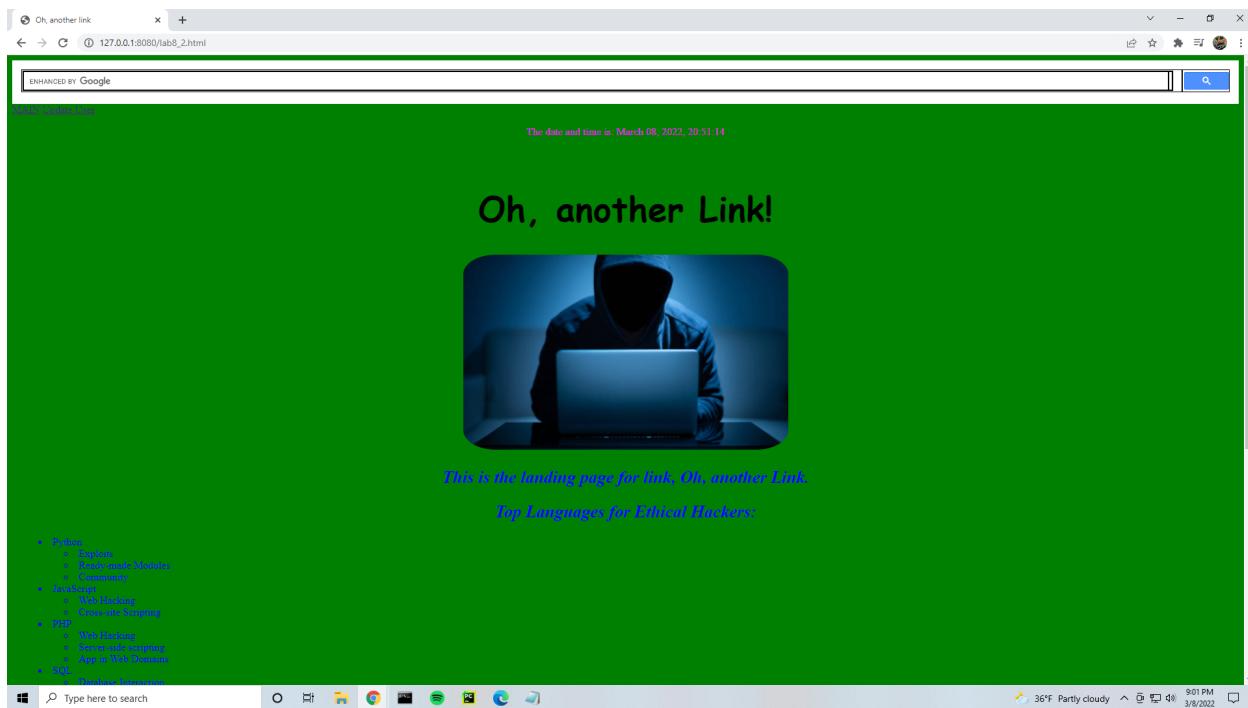
[Login]

• Login Successful!



Fig 8

**Fig 10**



- Python
  - > Explosive
  - > Ready-made Modules
  - > Community
- Assembly
  - > Assembly Language
  - > Cross-site Scripting
- PHP
  - > Web Hacking
  - > Server-side scripting
  - > App in Web Domains
  - > SQL
  - > Database Interaction

Fig 11



Fig 12

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SDEV300-6382

Date: Mar. 8, 2022



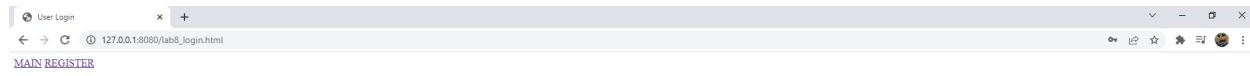
## Update Password

Username:   
New Password:   
Re-enter Password:

Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character.



Fig 13



## Please login

Username:   
Password:

• Update Successful!



Fig 14



## Please login

Username:  Password:

[Login]

• Login Successful!



Fig 15

## Welcome to a Webpage!

*This is just a simple webpage to display some HTML basics.*



Fig 16

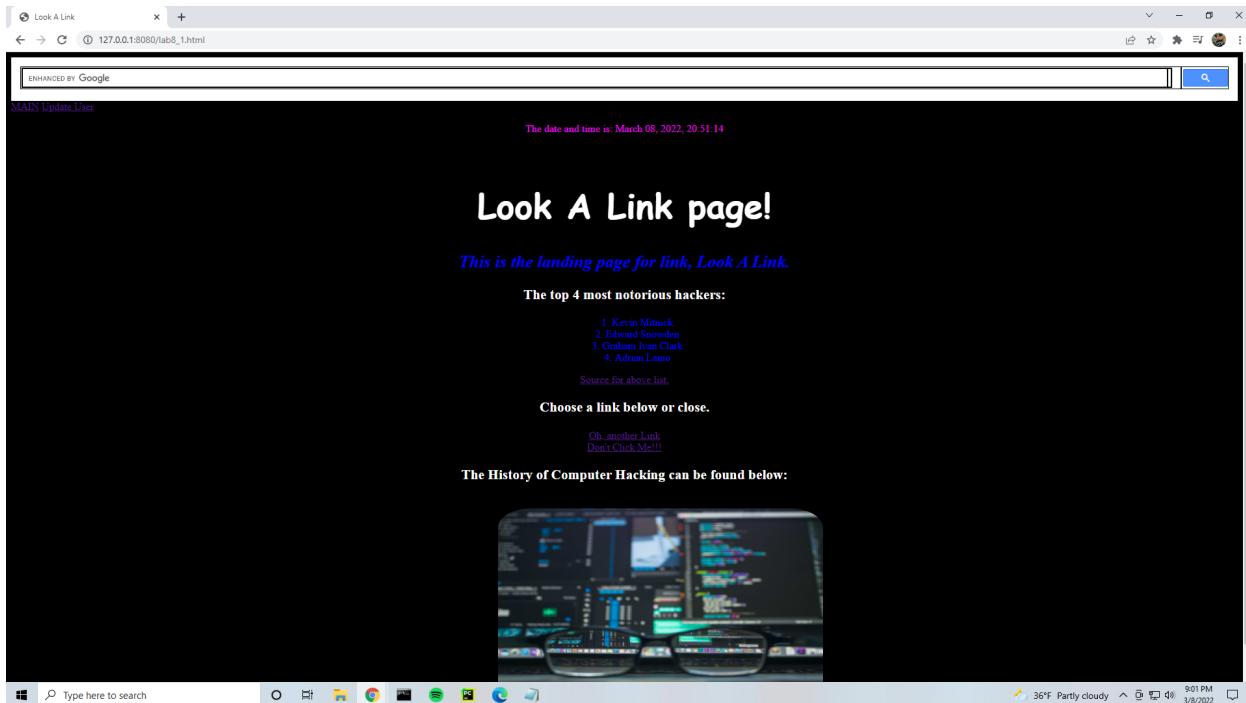


Fig 17

### Pylint errors:

Didn't have too many errors outside of the 'line too long' and 'trailing white space'. These were corrected by backspacing then returning until PyCharm auto-corrected the issue. Below is the last pylint run:

```

File Edit View Navigate Code Refactor Run Tools VCS Window Help glover_lab_8.py
SDDEV300 Week8 glover_lab_8.py glov8_pw_update.html glov8_register.html
Project SDDEV300 C:\Users\Corey\P...
  > HelloHello
  > project
  > www.library.root
  > Week1
  > Week2
  > Week3
    > pylintc
    > glover_lab_3.py
    > glover_week3_disc.py
  > Week4
  > Week5
    > pylintc
    > glover_lab_5.py
  > Week6
  > Week7
  > Week8
    > static
      > img1.jpg
      > img2.jpg
      > img3.jpg
      > img4.jpg
      > lab8_format.css
  > lab8_update_pw0.py

203     error_msg = ''
204     verify_password = re.compile(r'^[a-zA-Z]{2,}[a-zA-Z]{2,}[a-zA-Z]{2,}[a-zA-Z]{2,}([0-9]{1,2}){1,2,256}$')
205
206     if request.method == 'POST':
207         password = request.form['password']
208         if 'logged_in' in session:
209             if password == request.form['repas']:
210                 user_data.password = password
211                 if re.fullmatch(verify_password, password):
212                     flash('Update Successful!')
213                     return redirect(url_for('login'))
214                 else:
215                     error_msg = "Password must be at least 12 characters, 1 uppercase, 1 lowercase, 1 number, and 1 special character."
216             else:
217                 error_msg = "Passwords must match."
218
219     return render_template('lab8_pw_update.html', error_msg=error_msg)

PS C:\Users\Corey\PycharmProjects\SDDEV300\Week8> pylint glover_lab_8.py
*****
Module: glover_lab_8
glover_lab_8.py:62:9: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
glover_lab_8.py:75:9: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
glover_lab_8.py:76:8: R1705: Unnecessary "else" after "return" (no-else-return)
glover_lab_8.py:93:15: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
glover_lab_8.py:152:17: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
glover_lab_8.py:162:28: R1705: Unnecessary "else" after "return" (no-else-return)
glover_lab_8.py:184:9: W1514: Using open without explicitly specifying an encoding (unspecified-encoding)
glover_lab_8.py:221:10: R1705: Unnecessary "else" after "return" (no-else-return)
glover_lab_8.py:200:0: W0011: Unused sha256_crypt imported from passlib.hash (unused-import)

.
.
.

Your code has been rated at 9.31/10 (previous run: 9.31/10, +0.00)

PS C:\Users\Corey\PycharmProjects\SDDEV300\Week8>

```

These remaining issues were more difficult to troubleshoot and caused more problems when corrected.

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#### Decrypting Secret Messages:

Below is the information for solving the coded messages using the rumkin site. These were found by either previous knowledge('Morse code') or trial and error/repetition.

The first coded message was in Morse code:

- .... . . . / ... - - . . . - / ... - - - - - - - / - . . . - . - ...  
... / ..... - ... / ... - - - . / ... - . . . - - . . / ... - - -  
..- . . . - . . . - - - -

The secret message here was :

THIS SDEV 300 CLASS HAS SOME STRANGE REQUESTS.

The second coded message was Base64:

U28gdGhpccBpcyBiYXNINjQuIE5vdyBJIGtub3cu

The secret message here was :

So this is base64. Now I know.

Finally, the last coded message was Caesarian shift with an insert of 12:

--- Psuwb Ysm ---  
W oa gc qzsjsf. Bc cbs qcizr dcggwpzm twuifs hvwg cih.  
--- Sbr Ysm ---

The secret message here was:

--- Begin Key ---  
I am so clever. No one could possibly figure this out.  
--- End Key ---