

Graded Lab 8 Test Report

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Purpose

The purpose of Graded Lab 8 is to demonstrate knowledge of Web application vulnerabilities, password complexity, logs, and cryptographic algorithms. In Part I, the purpose is to update a website to include more secure login and registration forms by providing additional validation on the password check and to include a password update form. The website displays a log in page upon entry and the user the option to log in or register. If the user registers an account on the website, the user entered password is checked to see if has the correct length and complexity and it does not contain commonly used, expected, or compromised values. After logging in to the website or creating an account, a home page is displayed along with three workout tabs, a log out button, and a password reset button. If the user selects the password reset button and resets their password, their entered password is once again validated. The goal of Part II of Graded Lab 8 is to decrypt three messages.

For Part I, there will be test cases to test the functions outlined below:

1. Ensure the program displays the website in localhost:5000 and the log in screen is displayed. If the user enters an invalid username and password, an error message is displayed.
2. Ensure the program displays the website in localhost:5000 and the log in screen is displayed. If the user enters a username and password, they are routed to the home page and a confirmation is displayed.
3. If the user selects the ‘Update Password’ menu option, ensure the website routes to the ‘Update Password’ page. If the user does not enter their correct current password, ensure an error message is displayed.

4. In the ‘Update Password’ page, if the user enters their correct current password but enters a new password that is a commonly used, expected, or compromised value, ensure an error message is displayed.
5. In the ‘Update Password’ page, if the user enters their correct current password but enters a new password that not in the correct format, ensure an error message is displayed.
6. In the ‘Update Password’ page, if the user enters their correct current password but enters a valid new password, ensure the website routes the user to the log in page. If the user enters the new password along with their username, ensure the website routes them to the home page again.
7. In the Home page, if the user selects ‘Log Out’ from the menu, ensure the website logs the user out and routes them back to the Log In page.
8. If the user makes an unsuccessful log in attempt, ensure the failed attempt is logged.
9. If the user selects the Register button from the Log In page and enters an invalid password, ensure an error message is displayed.

Part I:

Graded Lab 8 Test Report

Test Case	Input	Expected Output	Actual Output	Result
1	Website input: localhost:5000 Username= <u>admin@</u> <u>admin.c</u> <u>om</u> Password=Test1 2345!!!! !	Log in page displayed Error message: Enter a Valid Password. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.	Log in page displayed Error message: Enter a Valid Password. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.	Pass
2	Website input: localhost:5000 Username= <u>admin@</u> <u>admin.c</u> <u>om</u> Password=mXU xFDjlnuc#	Log in page displayed Home page displayed	Log in page displayed Home page displayed	Pass
3	Website input: localhost:5000/home Update Password button Selected Current_pass = 'Testpass12345!' New_pass= 'mXUxFDjlnuc#' confirm_pass = 'mXUxFDjlnuc#'	Update Password page displayed Error message: Current password incorrect. Please re-enter.	Update Password page displayed Error message: Current password incorrect. Please re-enter.	Pass

4	Website input: localhost:5000/home Update Password button Selected Current_pass = 'mXUxFDjlnuc#' New_pass= '123456', confirm_pass = '123456',	Update Password page displayed Error message: Field must be at least 12 characters long. Password contains an unsecure word. Please choose a different password.	Update Password page displayed Error message: Field must be at least 12 characters long. Password contains an unsecure word. Please choose a different password.	Pass
5	Website input: localhost:5000/home Update Password button Selected Current_pass = 'mXUxFDjlnuc#' New_pass= ';LvFZX<hXc?bx', confirm_pass = ';LvFZX<hXc?bx'	Update Password page displayed Error Message: Password Invalid. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.	Update Password page displayed Error Message: Password Invalid. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.	Pass
6	Website input: localhost:5000/home Update Password button Selected	Log in page displayed Update Password page displayed Log in page displayed Home page displayed	Log in page displayed Update Password page displayed Log in page displayed Home page displayed	Pass

	Current_pass = 'mXUxFDjlnc #' New_pass= '3azly8drlbroj_juPhot' confirm_pass = '3azly8drlbroj_juPhot'			
7	Website input: localhos t:5000/h ome Log Out button Selected	Home page displayed Log in page displayed Confirmation message: You are successfully logged out!	Home page displayed Log in page displayed Confirmation message: You are successfully logged out!	Pass
8	Website input: localhos t:5000/l ogin Userna me = <u>admin@ admin.c om</u> Passwor d = 'mXUxFDjlnc #'	Log in page displayed Error message: Invalid Username/Password. Please Try Again	Log in page displayed Error message: : Invalid Username/Password. Please Try Again	Pass
9	Website input: localhos t:5000/l ogin Register button clicked First_na me = Liz Last_na me = Larson Email = <u>lars.lizzi</u>	Register Page Displayed Error message: Password contains an unsecure word. Please choose a different password.	Register Page Displayed Error message: Password contains an unsecure word. Please choose a different password.	Pass

e@gmai l.com Passwor d = 'Thisisa passwor d!' Confirm _passwo rd = 'Thisisa passwor d!'			
---	--	--	--

Test Case 1 Screen Captures:

member login: 3 day workout plan

Log InEmail Address Password Need to Create an Account? [Register](#)

member login: 3 day workout plan

Log InEmail Address Password

Enter a Valid Password. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.

Need to Create an Account? [Register](#)**Test Case 2 Screen Capture:**

workout plan: home

Home Day 1 Day 2 Day 3 Update Password Log Out 07/11/2021, 23:01

Logged In

Overview



This website provides three weight-training workouts that one can perform.
Listed below are the workouts included as well as the equipment you will need.

Good luck and enjoy!

Workouts Included:

- Chest, Triceps, & Shoulders
- Legs
- Back & Biceps

Test Case 3 Screen Captures:

password reset: 3 day workout plan

Update Password

Please fill out the information below to update your password.

Current Password

New Password

Confirm Password

password reset: 3 day workout plan

Current password incorrect. Please re-enter.

Update Password

Please fill out the information below to update your password.

Current Password

New Password

Confirm Password

Test Case 4 Screen Capture:

password reset: 3 day workout plan

Update Password

Please fill out the information below to update your password.

Current Password

New Password

Field must be at least 12 characters long.

Password contains an unsecure word. Please choose a different password.

Confirm Password

Test Case 5 Screen Capture:

password reset: 3 day workout plan

Update Password

Please fill out the information below to update your password.

Current Password

New Password

Password Invalid. Must be least 12 characters in length, and include at least 1 uppercase character, 1 lowercase character, 1 number and 1 special character.

Confirm Password

Test Case 6 Screen Capture:

password reset: 3 day workout plan

Update Password

Please fill out the information below to update your password.

Current Password

New Password

Confirm Password

member login: 3 day workout plan

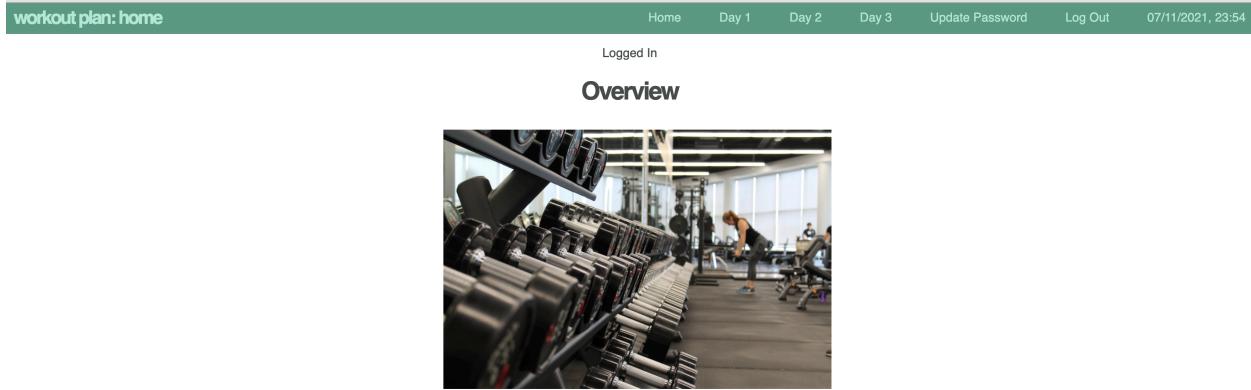
Password Updated.

Log In

Email Address

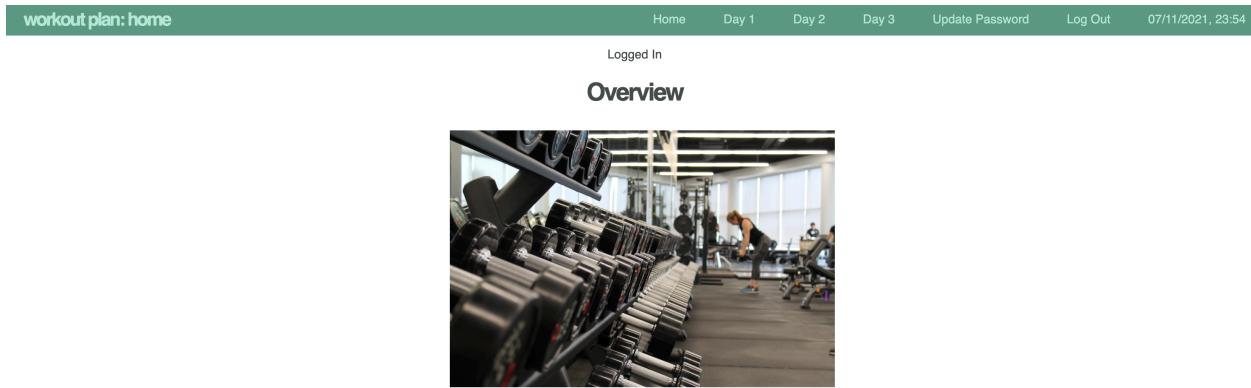
Password

Need to Create an Account? [Register](#)

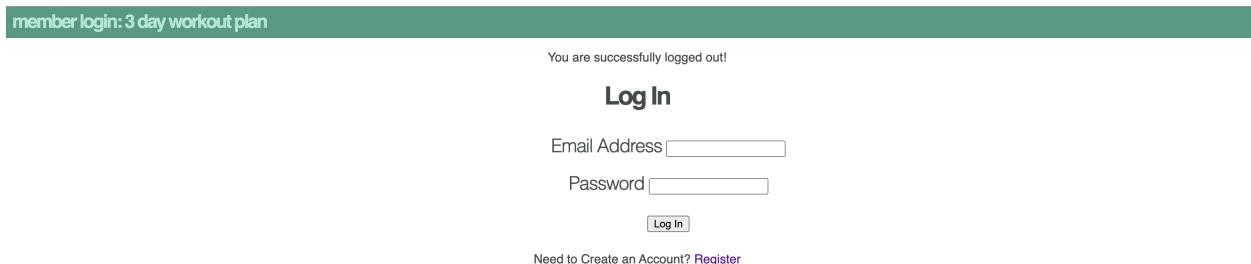


This website provides three weight-training workouts that one can perform.
Listed below are the workouts included as well as the equipment you will need.
Good luck and enjoy!

Test Case 7 Screen Capture:



This website provides three weight-training workouts that one can perform.
Listed below are the workouts included as well as the equipment you will need.
Good luck and enjoy!



Test Case 8 Screen Capture:

member login: 3 day workout plan

Invalid Username/Password. Please Try Again

Log In

Email Address

Password

Need to Create an Account? [Register](#)

A screenshot of a terminal window titled "failed_logins.txt". The window displays two entries of failed logins:

```
date      time      ip_add
07/11/2021  23:17    127.0.0.1
07/12/2021  00:02    127.0.0.1
```

Test Case 9 Screen Capture:

member registration: 3 day workout plan

Register

Please fill out the information below to access your workouts.

First Name

Last Name

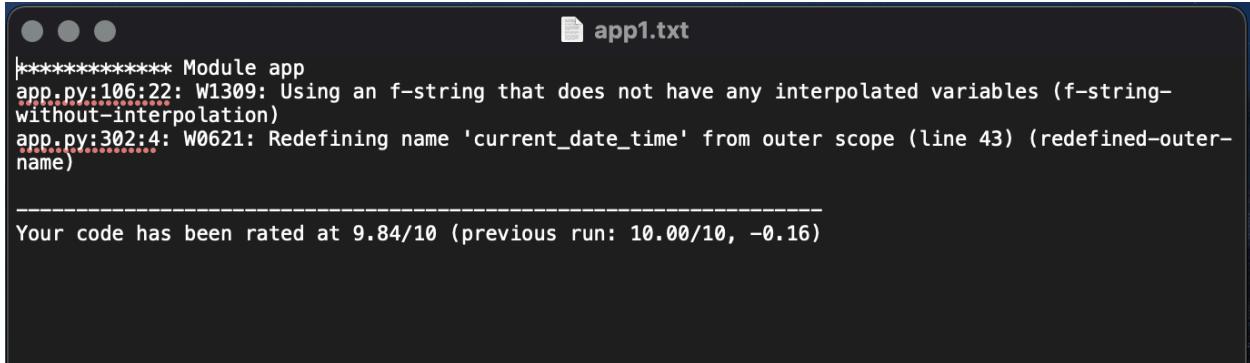
Email Address

Password

Password contains an unsecure word. Please choose a different password.

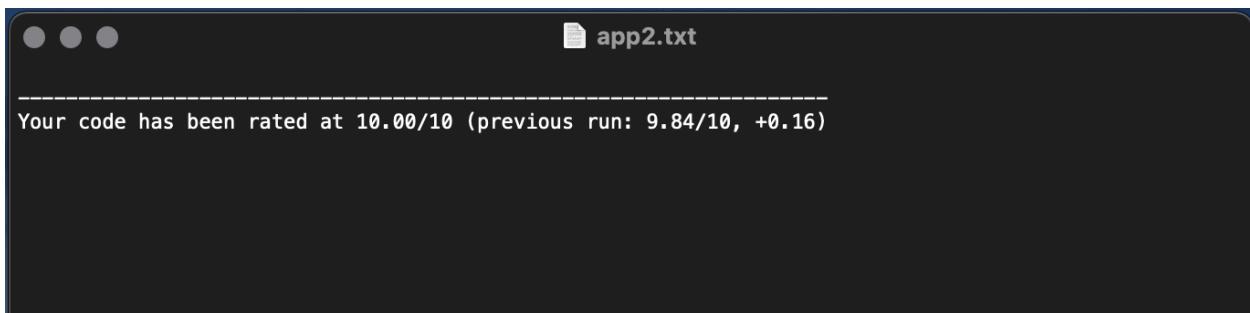
Confirm Password

Already Have An Account? [Sign In](#)

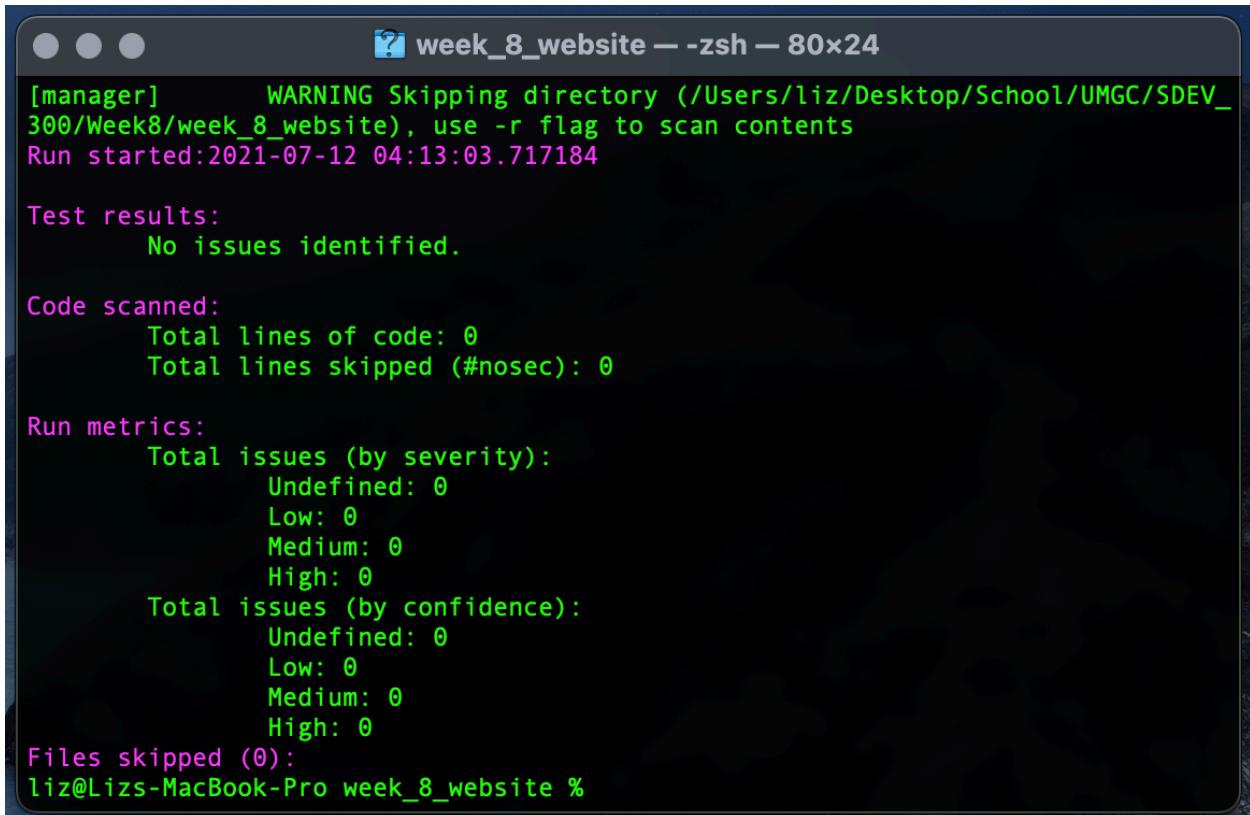
Pylint Results:

```
***** Module app
app.py:106:22: W1309: Using an f-string that does not have any interpolated variables (f-string-without-interpolation)
app.py:302:4: W0621: Redefining name 'current_date_time' from outer scope (line 43) (redefined-outer-name)

-----
Your code has been rated at 9.84/10 (previous run: 10.00/10, -0.16)
```



```
Your code has been rated at 10.00/10 (previous run: 9.84/10, +0.16)
```

Bandit Results:

```
[manager]      WARNING Skipping directory (/Users/liz/Desktop/School/UMGC/SDEV_300/Week8/week_8_website), use -r flag to scan contents
Run started:2021-07-12 04:13:03.717184

Test results:
    No issues identified.

Code scanned:
    Total lines of code: 0
    Total lines skipped (#nosec): 0

Run metrics:
    Total issues (by severity):
        Undefined: 0
        Low: 0
        Medium: 0
        High: 0
    Total issues (by confidence):
        Undefined: 0
        Low: 0
        Medium: 0
        High: 0
Files skipped (0):
liz@Lizs-MacBook-Pro week_8_website %
```

Part II:

a.

```
- . . . . . / . . - . . . - / . . . - - - - - / - - . . . - . . . . .
/ . . . . - . . / . . . - - - - . / . . . - . . - . - - . . / - - . . - - - - . . .
- . . . - - - -
```

Morse code selected based on previous knowledge of what morse code looks like.

Morse Code

Rumkin.com >> Web-Based Tools >> Ciphers and Codes

Morse Code, created by Samuel Morse, was designed to transmit letters across telegrams. He wanted frequently used letters to have short codes and less frequently used letters to have longer codes. It has since been used in many other situations. For a lot more information, visit the [Wikipedia](#) entry on the topic. When encrypting, only letters and numbers will be encoded and the rest will be treated like spaces. When decrypting, only periods and hyphens will be decoded and the rest will be treated like spaces. This web page uses International Morse Code with some additional enhancements, but without support for foreign characters. It also is geared to help you decode Morse Code snippets you find with the Reverse (flips the text) and Swap (exchanges periods and hyphens) links.

You can also insert the following phrases from the Kryptos statue: [SOS](#), [RQ](#), [SHADOW FORCES](#), [VIRTUALLY INVISIBLE](#), [...T IS YOUR POSITION](#), [DIGETAL INTERPRETATIT](#), [LUCID MEMORY](#). (See Photos)

Decrypt ▾

Your message: (Reverse - Swap)

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

This is your encoded or decoded text:

THIS SDEV 300 CLASS HAS SOME STRANGE REQUESTS.

Result: THIS SDEV 300 CLASS HAS SOME STRANGE REQUESTS.

b.

U28gdGhpcyBpcyBiYXNlNjQuIE5vdyBJIGtub3cu

Base64 selected after trial and error.

Base64

Rumkin.com >> Web-Based Tools >> Ciphers and Codes

Base64, also known as MIME encoding, translates binary into safe text. It is used to send attachments in email and to change small bits of unsafe high-character data into stuff that is a lot nicer for text-based system.

Decrypt ▾

U28gdGhpcyBpcyBiYXNlNjQuIE5vdyBJIGtub3cu

This is your encoded or decoded text:

So this is base64. Now I know.

Result: So this is base64. Now I know.

c.

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

Caesarian Shift and n = 12 selected after trial and error

Caesarian Shift

Rumkin.com >> Web-Based Tools >> Ciphers and Codes

This is a standard Caesarian Shift cipher encoder, also known as a rot-N encoder and is also a style of substitution cipher. This way, you can add one, two, or any number up to 25 to your string and see how it changes. This is an offshoot of the [rot13](#) encoder on this web site. To perform this shift by hand, you could just write the alphabet on two strips of paper. Line them up so the top strip's A matches the bottom strip's D (or something) and then you can encode. A simple test to see how this works would be to [insert the alphabet](#) into the encoder and then change the values of N.

This sort of cipher can also be known as a wheel cipher. This is where an inner wheel has the alphabet around the outside, and that is placed upon an outer wheel, also with the alphabet going around it. You can rotate the wheels so that ABC lines up with ABC, or ABC may line up with QRS.

To encode something, just pick an N and type in your message. To decode something, subtract the encryption N from 26 and it should be decoded for you.

N: 12

--- Psuwd Xsm --- W oa gg ggasjaf. Bc cbs qcizx dggwpmz twuifz hwxg cih. --- Shr
Xsm ---

This is your encoded or decoded text:

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

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

Results

This program displays the website successfully. On my first Pylint test of this program, I received a 9.84/10 because I was formatting a string when I didn't need to and because I redefining a variable in one of my methods from the outer scope. After fixing those issues, I received a 10/10. Additionally, on my first Bandit run, no issues were identified. I was able to solve each cipher, but both cipher B and C took me some time to do. The website performs as expected and both Part I and II of this assignment are successful ways to implement the lessons learned during the eighth week of SDEV 300 since it covers HTML forms, password validation, and ciphers.