Assignment 2 – 25% of Total Score

Deadline for Submission: 20 Oct 2024 (Sun) 23:59

Question 1 – 10%

Objective:

1. Develop a Python program **(login - your name.py)**using Selenium to automate the process of testing login functionality on a website.
2. The program should allow users to choose which test case to execute.
3. The program should take a screenshot of the webpage after each test case and save it with a specific name.

Instructions:

Step 1:

The program should prompt users to input either 1, 2, or 3 to execute the corresponding test case. Inputting the character 'q' will exit the program. If the input is not 1, 2, 3, or 'q', the program should prompt the user to re-enter their choice.

Step 2:

Use **Selenium** to browse the Test Login Website at https://practicetestautomation.com/practice-test-login/ using the Chrome driver. *(You may assume the driver location is `C:\Drivers\chromedriver` if necessary)*

Step 3:

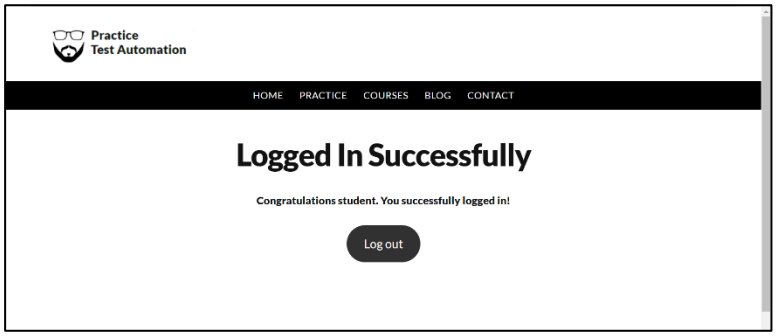
Implement the following three test cases with the login information on the website:

- Test case 1: Input the correct username and password.
- Test case 2: Input the incorrect username.
- Test case 3: Input the correct username and incorrect password.

Step 4:

After performing each test case, print the **current URL** and **take a screenshot** of the webpage. Save the screenshot as **case*i*.png**, where **i** is the test case number **(i.e., case1.png, case2.png, etc.)**. You may assume the file location of the screen captures is the same as the Python file. The screen capture shall be the maximum size of your screen.

(Sample) Screen capture - `case1.png`



QUESTION 2 – 15%

Objective:

With the provided csv file named `result.csv` including the student information and marks of different assessments.

Attribute Name	Description
Stud_ID	Student ID
Name	Student Name
Assignment1	Marks of Assignment1
Assignment2	Marks of Assignment2
Class_Participation	Marks of Class Participation
Exam	Marks of Exam

Instructions:

You are required to create a **Python program (result - your name.py)** to achieve the following tasks step by step referring to `result.csv` file by using **pandas** module:

1) Print the highest **Exam** marks;
2) Print the average of **Assignment1** marks;
3) Print the **Student ID** and **Student Name** who have not submitted for **Assignment2**.
4) Create a new column named **Final_Marks**, calculated with the following formula.
5) Create a new column named **Final_Grade**, calculated with the following formula.
6) Finally, convert the changes to **`result.xlsx`** and the sheet name as **"Assessment"**

Attribute Name	Description
Final_Marks	Final Marks (Marks of ***Assignment1 + Assignment2 + Class Participation + Exam***) "NaN / Empty value is acceptable for Final Marks if there are any missing fields of marks"
Final_Grade	Final Grade **E:** Final Marks < 50 **D:** $50 \leq$ Final Marks < 65 **C:** $65 \leq$ Final Marks < 80 **B:** $80 \leq$ Final Marks < 90 **A:** Final Marks ≥ 90 "NaN / Empty value is acceptable for Final Marks if there are any missing fields of marks"

(Sample) result.csv

	A	B	C	D	E	F
1	Stud_ID	Name	Assignment1	Assignment2	Class_Participation	Exam
2	1	Amy	25	25	8	33
3	2	Bob	15		8	25
4	3	Carol	20	25	8	27
5	4	Daniel	19	20	6	37
6	5	Erica	16	12	7	12
7	6	Francis	25	10	9	37
8	7	George	21	12	10	35
9	8	Helen	12		5	22
10	9	Ian	22	24	6	28
11	10	Jennifer	18	11	6	28

(Sample) Output screen

```
Highest Exam Marks:
37
Average Assignment1 Marks:
19.3
Without Submitting Assignment2:
   Stud_ID    Name
1        2     Bob
7        8   Helen
   Stud_ID      Name  Assignment1  ...  Exam  Final_Marks  Final_Grade
0        1       Amy           25  ...    33         91.0            A
1        2       Bob           15  ...    25          NaN
2        3     Carol           20  ...    27         80.0            B
3        4    Daniel           19  ...    37         82.0            B
4        5     Erica           16  ...    12         47.0            E
5        6   Francis           25  ...    37         81.0            B
6        7    George           21  ...    35         78.0            C
7        8     Helen           12  ...    22          NaN
8        9       Ian           22  ...    28         80.0            B
9       10  Jennifer           18  ...    28         63.0            D

[10 rows x 8 columns]
```

(Sample) result.xlsx

	A	B	C	D	E	F	G	H
1	**Stud_ID**	**Name**	**Assignment1**	**Assignment2**	**Class_Participation**	**Exam**	**Final_Marks**	**Final_Grade**
2	1	Amy	25	25	8	33	91	A
3	2	Bob	15		8	25		
4	3	Carol	20	25	8	27	80	B
5	4	Daniel	19	20	6	37	82	B
6	5	Erica	16	12	7	12	47	E
7	6	Francis	25	10	9	37	81	B
8	7	George	21	12	10	35	78	C
9	8	Helen	12		5	22		
10	9	Ian	22	24	6	28	80	B
11	10	Jennifer	18	11	6	28	63	D

Assessment

Guidelines on submission of this Assignment:

1. In addition to meeting the requirements of each question, the solution should also incorporate proper coding style and include inline comments; and
2. You should submit 1 zip file to Moodle includes the below:
    a. login - your name.py
    b. result - your name.py
    c. Your name.docx (Copy all the Program code of Question 1 and 2 to this word file)