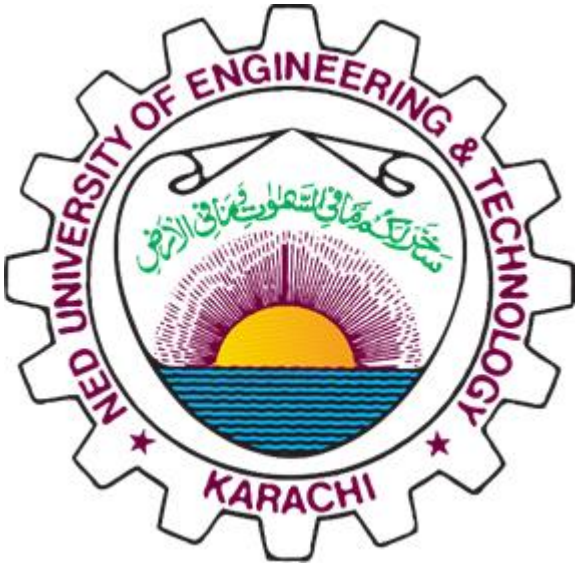
SQE LAB MANUAL

GROUP # 17



Submitted By:

- Roohana Ashraf (SE-054)
- Ariba Asif (SE-059)
- Mahnoor Qazi (SE-066)
- Unaiza Afridi (SE-078)

Instructor: Ms.Sana Fatima

Date: 30th July' 2021

ROLL. NO.	NAME	LAB
54	Roohana	1, 6 and 11
59	Ariba Asif	2, 5 and 12
66	Mahnoor Qazi	4, 8, 9 and 14
78	Unaiza Afridi	3, 10 and 13

Lab 01: Introduction to Software Testing

1. Name the stages involved in the software testing life cycle, differentiate test planning and test analysis.

Ans: The phases involved in Software Testing Life Cycle (STLC) are as follows:

- Test Planning
- Test Analysis
- Test Design
- Construction and verification
- Testing Cycles
- Final Testing and Implementation
- Post Implementation

Difference between Test Planning & Test Analysis:

Test planning is performed by the project manager and a high-level test plan is prepared which includes the details of testing like: identification of appropriate type of testing, resources, schedule , budget and personnel required to complete testing, and associated risks. Every feature to be tested is decided in this phase and it has no endpoint. If done properly, it reduces the risk of poor quality software.

Test Analysis comes after the test planning phase, and in this phase we analyse the test plan and determine the type of testing to be performed in different stages of SDLC. We ensure that the test cases cover all the system software requirements, identify the test cases which need to be automated and review the test plan document. Proper meetings are scheduled between the testing team, development team and project managers to check the work progress.

2. Differentiate between white box and black box testing techniques. Which technique do you prefer where you are asked to perform testing at component level and why? Explain with suitable examples.

BLACK BOX TESTING	WHITE BOX TESTING
It is High-Level Testing (also called Data-Driven testing).	It is Low-Level Testing (also called Code-based testing).
Function or behavior of a software is tested and it offers low granularity.	Structural test of a software in which internal functions/working of the software are tested and it offers high granularity.
No programming or implementation knowledge is required and code/program is hidden.	Programming or implementation knowledge is required and the tester should know the code or internal structure of the program.
It is comparatively easier and saves time.	It is comparatively difficult and time consuming.

Focuses on Code's structure, branches, paths and conditions.	Focuses on the end-users point of view.
It can be done by low-skill testers or end-users.	It is performed by the programmers at an early stage.

In ***component or unit level testing***, we examine all the units of a software and ensure that it meets all the requirements and functions as expected. In order to perform component level testing, we would prefer the White-Box Testing technique, as the functionality and coding must be known to test the smallest testable part of a software system. The component testing is complex and knowing the internal details is required for it.

For example: In an e-commerce application, we have a component of 'product' containing all the products information and another component (let say 'homepage') is utilizing this 'product' component. So, unit testing is done by the developers and White box testing is more feasible for the component of 'product' to ensure that it works fine and gives no logical errors so that it can be used in the other parts of the application.

3. Explain software testing levels.

Ans: There are mainly four levels of testing:

- **Unit Testing:** This testing is usually performed by developers and it tests the individual code units i.e smallest testable part of a system. We check whether all the actual requirements and functionalities are achieved or not.

- **Integration Testing:** This type of testing is performed by testers, after unit testing. The units and modules of a system are combined together and tested to detect the errors in interaction between the different units in a module. It ensures the data flow between different modules.

- **System Testing:** After integration testing, the quality assurance team performs system testing of the whole integrated system to ensure that the software is developed according to the original requirement, offers all the functionalities, and follows overall quality standards. It covers security, load , reliability factors and other functional and nonfunctional requirements.

- **User Acceptance testing:** User acceptance testing is done by either the users or customers to validate whether the final product meets all the business and external requirements and whether it is ready to be delivered or not. In this testing, each and every thing is validated like: UI, content, Performance issues and overall quality of the product.

4. Write down some advantages of software testing.

Advantages of Software Testing:

- It helps in providing a good experience for users.
- It improves the customers satisfaction and determines the software's performance.
- It helps in gaining customer's confidence by providing high-quality software that fulfill all their requirements.
- It identifies bugs during the product's development and saves time and money. Because if a bug is not resolved in the early stages of development of a software project it causes a huge loss and risk especially in terms of time and money, so proper software testing is required in SDLC.
- It helps in earning good money/profit and enhances position in the market.

5. Write a test set for copying a file XYZ from folder A to folder B. (at least 5 test cases)

Test case ID	Description	Steps	Test Data	Expected Output	Actual Output	Status
TC-CPY-001	Validate that a new folder is created	- Create a new folder 'B'	N/A	Folder should be created	Folder is created	Pass
TC-CPY-002	Check that file 'XYZ' is present in folder 'A'	-Go to the location of folder 'A' - Find file 'XYZ' in folder 'A'	N/A	File 'XYZ' should be present in folder 'A'	File 'XYZ' is present in folder 'A'	Pass
TC-CPY-003	Copy file 'XYZ' from folder 'A'	- Select file 'XYZ' -Right click on that file and click on the "copy" action	N/A	"Copy" action should be present and file should be copied.	"Copy" action is present and the file is copied.	Pass
TC-CPY-004	Paste file 'XYZ' in folder 'B'	- Go to the location of folder 'B' -Right click, and click on "paste"action	N/A	"Paste" action should be there in folder 'B' and the file should be pasted.	File is successfully pasted in folder 'B'	Pass
TC-CPY-005	Check that the file name, size and file content should be same in folder 'B'	- Go to folder 'B' - Click on the file specification and	N/A	All the properties of the file should be same	All the properties of the file are same	Pass

		verify all these properties				
TC-CF-006	Check that the ‘XYZ’ file is still present in folder ‘A’ after it is pasted in folder ‘B’	- Go to folder ‘A’ - Check that the ‘XYZ’ file is still present	N/A	File ‘XYZ’ should be present in folder ‘A’.	File ‘XYZ’ is present in folder ‘A’	Pass

LAB 02 : Manual Testing: Test Cases Creation

EXERCISE:
Write detailed Test cases for facebook Login and signup pages by using templates.
/*Attach printout here */

Project Name: Facebook	
Test Case ID: Tc-fb-001	**Test Designed By:** Ariba Asif
Test Priority (Low/Medium/High): Med	**Test Design Date:** 11-07-2021
Module Name: Login	**Test Executed By:** Ariba Asif
Test Title: Login Feature Testing	**Test Execution Date:** 12-07-2021
Description: Verify the Login feature of Facebook	

S.No	Test Case	Test Steps	Test Data	Expected Result	Actual Result	Status
01	Input valid username and valid password.	Enter valid username. Enter valid password Press the "Login" button.	Valid username i.e ariba@fb.com and valid password i.e ariba916	Login should be successful.	Successfully logged in.	Pass.
02	Input Valid username and invalid password.	Enter valid username. Enter invalid password. Press the "login" button.	Valid username i.e ariba@fb.com and invalid password i.e ariba16	Login should be unsuccessful and this message should be displayed "Incorrect Password".	Login was unsuccessful. And this message was displayed "The password that you entered is incorrect, but we can help you get back into your account. Try again with different login info."	Pass.
03	Input invalid username	Enter invalid username.	Invalid username i.e areeba@fb.com	Login should be unsuccessful	Login was unsuccessful and this message was	Pass.

	and valid password.	Enter valid password. Press the "login" button.	and valid password i.e ariba916	and this message should be displayed "couldn't find your account"	displayed "We couldn't find an account matching the login info you entered."	
04	Input invalid user name and invalid password.	Enter invalid username. Enter invalid password. Press the "login" button.	Invalid username i.e areeba@fb.com and invalid password i.e ariba16	Login should be unsuccessful and this message should be displayed "couldn't find your account".	Login was unsuccessful and this message was displayed "We couldn't find an account matching the login info you entered."	Pass.
05	Input no id and no password and press the "login" button.	Press the "login" button without entering any info.	N/A	Should Redirect cursor to id box.	Cursor was redirected to the id box and this message was displayed "The email address or phone number that you've entered doesn't match any account. Sign up for an account."	Fail.
06	Input valid Id and incorrect password too many times.	Enter valid id. Enter invalid password again and again. Press the "login" button.	Enter valid id i.e ariba@fb.com and invalid password i.e ariba16	Error message should be displayed saying "account should be blocked for sometime."	Error message "your account has been blocked because of too many failed attempts." was displayed	Pass.
07	Input invalid id and incorrect password	Enter invalid id. Enter invalid password	Enter invalid id i.e areeba@fb.com and invalid	Repetitive message of "unable to find your account"	This message was displayed "Need help with finding your account?	Fail.

	too many times.	again and again. Press the "login" button.	password i.e ariba16	should be displayed.	The mobile number or email address that you entered does not match an account, but we can help you search for your account." It also gave an option to find your account via mobile number.	
08	Enter valid id and empty password.	Enter valid id. Press the "login" button.	Enter email id ariba@fb.com	Should show exception (enter password)	Cursor redirect to "enter password" box.	Pass
09	Enter valid password and empty id.	Enter valid password. Press the "login" button.	Enter valid password ariba916	Should Redirect to "enter id box"	Cursor redirected to enter id box	Pass
10	Enter invalid id and empty password.	Enter invalid id. Press the "login" button.	Enter email id areeba@fb.com	Should show Error message "email account not found, need help finding your account?"	This message was displayed "Need help with finding your account? The mobile number or email address that you entered does not match an account, but we can help you search for your account." It also gave an option to find your account via mobile number.	Pass
11	Enter invalid password and empty id.	Enter invalid password. Press the "login" button.	Enter invalid password ariba16	Should redirect to email id box	Cursor redirected to the email id box with this message "The	Pass.

					email address or phone number that you've entered doesn't match any account. Sign up for an account."	
12	Input no id and no password and press the "forgot password " button.	Press the "forgot password" button without entering any info.	N/A	Should Redirect the cursor to the "enter id" box.	This message was displayed "Use your Google account to reset your password".	Fail.
13	Try logging in by using your phone number and valid password.	Enter a valid phone number. Enter valid password .	Enter valid phone number 0334233132 and valid password ariba916	Login should be successful.	Successfully logged in.	Pass
14	Try logging in by using your phone number and invalid password.	Enter a valid phone number. Enter invalid password .	Enter valid phone number 0334233132 and invalid password ariba16	Login should be unsuccessful	Login was unsuccessful. And this message was displayed "The password that you entered is incorrect, but we can help you get back into your account. Try again with different login info."	Pass
15	Check the "forgot password" option.	Enter valid email address. Press the "forgot password" button.	Enter email id ariba@fb.com	Should redirect to a page to reset the password.	Redirects to a page to reset the password by sending the email.	Pass.
Post Conditions: User is validated with database and successfully login to account. The account session details are logged in the database.						

Project Name: Facebook	
Test Case ID: Tc-fb-002	**Test Designed By:** Ariba Asif
Test Priority (Low/Medium/High): Med	**Test Design Date:** 11-07-2021
Module Name: Signup	**Test Executed By:** Ariba Asif
Test Title: Signup Feature Testing	**Test Execution Date:** 12-07-2021
Description: Verify the signup feature of Facebook.	

S.No	Test Case	Test Steps	Test Data	Expected Result	Actual Result	Status (Pass/Fail)
01	Enter new id and password.	Enter a new valid id Enter a valid (6 digits) new password. Press the "next" button.	Enter valid id i.e ariba@fb.com and valid password ariba916	Should proceed to the next step.	Proceeded towards signing up and syncing contacts options.	Pass.
02	Enter id and pass that already exists.	Enter an old id. Enter an old password. Press the “next” button.	Enter old id i.e aribaasif@fb.com and enter an old password ariba916	Should display the message "account already exists"	Error Message “There is an existing account associated with this email” was displayed.	Pass
03	Enter a valid new email and new password with 6 digits.	Enter a new valid email. Enter a password with 6 or more digits. Press the "next" button.	Enter new id i.e aribaasif123@fb.com and password i.e ariba9	Should proceed towards the next step.	Proceeds towards the next screen of signing up.	Pass.

04	Enter a new valid id and a new password with less than 6 digits.	Enter a new valid email. Enter an invalid password with less than 6 digits. Press the "next" button.	Enter new id i.e aribaasif123@fb.com and invalid password i.e ariba.	Should redirect the cursor towards the "enter password" box and give a message of incorrect password.	Cursor redirected towards the "enter password" box with message "Password should consist of more than 6 digits"	Pass.
05	Enter your valid name.	Enter your name. Press the "next" button.	Enter your name i.s Ariba Asif	Should proceed towards the next step.	Proceeds towards the next step for entering age.	Pass.
06	Enter age as 0.	Select birth date. Press the "next" button.	Select the current date as your birth date.	Should redirect towards the "enter age" box with the message that age entered is incorrect.	Error Message “It looks like you entered the wrong info. Please be sure to use your real birthday”.	Pass.
07	Enter age under 5.	Enter your age. Press the "next" button.	Enter your invalid age i.e 4.	Should redirect towards the "enter age" box with the message that age entered is incorrect.	Input box “Age” is highlighted and the error message “Please enter your age” is displayed.	Pass.
08	Enter age over 5.	Enter your age. Press the "next" button.	Enter your valid age i.e 20	Should proceed towards the next step.	Proceeds towards the next step.	Pass.

09	Leave the "enter name" box empty.	Press the "next" button.	N/A	Should redirect towards the "enter name" box.	Input boxes are highlighted and an error message “Please enter your first and last name” was displayed.	Pass
10	Enter a valid phone number.	Enter your valid number. Press the "next" button	Enter valid phone number 033x-xxxxxxx	Should proceed towards the next step.	Proceeds towards the next step.	Pass.
11	Enter invalid phone number.	Enter your invalid number. Press the "next" button	Enter invalid phone number 11112222333	Should show an error message that phone number is invalid.	Proceeds towards the next step shows an error message after the completion of the sign up process.	Fail.
12	Enter invalid information again and again.	Enter invalid age. Enter invalid phone number. Enter invalid email address.	Enter invalid age 3 and invalid phone number 11112222333 with invalid email address areeba@fb.com	Should show errors on each step repeatedly.	Shows error messages repeatedly after continuously entering wrong information and displays this message "Sorry, we are not able to process your registration." Also blocks your registration for some time.	Fail.
13	Proceed without confirming your gender.	Press the "next button."	N/A	Error message to select gender should be displayed.	Error message “Please select your gender” was displayed.	Pass.

14	Sign up using a valid Gmail account.	Sync your fb account with your Gmail account.	Enter your valid and running Gmail account ariba@gmail.com	Should Sync your Gmail account with your new fb account.	Syncs your Gmail account with your FB account and receives an email from Google for confirmation.	Pass.
15	Sign up without syncing contacts	Press the "sign up" option instead of "sign up with syncing your contacts" option.	N/A	Should set up a FB account without syncing it with your mobile contacts.	Starts with the newly made FB account.	Pass.
Post Conditions: User is validated and successfully signed up. The user information is added to the database.						

Lab 03: Manual testing for some basic logic programs

Task01: Write a program (Any Language) to perform addition, subtraction, multiplication and division. Observe the output and Test it using a template. /*attach printout of code and Test template here*/

SOURCE CODE:

```
#include <iostream>
using namespace std;
int main()
{
    float num1, num2;
    float answer;
    char op;
    cout<<"enter first  number"<<endl;
    cin>>num1;
    cout<<"Enter second number"<<endl;
    cin>>num2;
    cout<<"enter operator"<<endl;
    cin>>op;
    switch(op){
        case '+':
         answer = num1 + num2;
         cout<< answer <<endl;
         break;
        case '-':
         answer = num1 - num2;
         cout<< answer <<endl;
         break;
         case '*':
           answer = num1 * num2;
           cout<< answer <<endl;
           break;
         case '/':
            answer = num1 / num2;
            cout<< answer <<endl;
            break;
         default:
           cout<<"Invalid Operator"<<endl;
    }
    return 0;
}
```

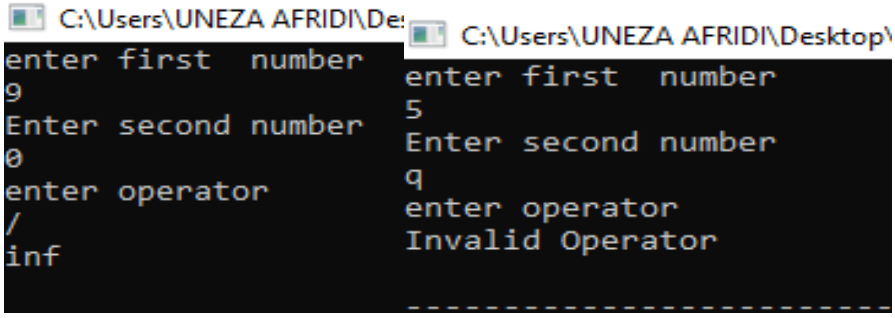
Project Name: Basic Calculator	
Test Case ID: Calculate_TESE78	**Test Designed By:** Unaiza Afridi
Test Priority (Low/Medium/High): Med	**Test Design Date:** 25-07-2021
Module Name: Do_Calculation	**Test Executed By:** Unaiza Afridi
Test Title: Test the basic operations in Calculator	**Test Execution Date:** 25-07-2021
Description: Verify the addition, subtraction, multiplication and division of two numbers(Also test division by zero)	
Pre-conditions: Not required	
Dependencies: No dependencies in this test.	

S. No.	Test Case	Test Steps	Test Data	Expected Output	Actual Output	Status
1	Input positive values of num1 and num2 and addition operator	Enter value of num1 and num2 Enter operator	Num1 = 9 Num2 = 3 Op = +	Answer should be = 12	As expected	Pass
2	Input positive values of num1 and num2 and subtraction operator	Enter value of num1 and num2 Enter operator	Num1 = 9 Num2 = 3 Op = -	Answer should be = 6	As expected	Pass
3	Input positive values of num1 and num2 and multiplication operator	Enter value of num1 and num2 Enter operator	Num1 = 9 Num2 = 3 Op = *	Answer should be = 27	As expected	Pass
4	Input positive values of num1 and num2 and division operator	Enter value of num1 and num2 Enter operator	Num1 = 9 Num2 = 3 Op = /	Answer should be = 3	As expected	Pass
5	Input negative values of num1 and num2 and addition operator	Enter value of num1 and num2 Enter operator	Num1 = -5 Num2 = -3 Op = +	Answer should be = -8	As expected	Pass
6	Input negative value of num1 and positive num2 and addition operator	Enter value of num1 and num2 Enter operator	Num1 = -5 Num2 = 3 Op= +	Answer should be = -2	As expected	Pass
7	Input positive value of num1 and negative num2 and addition operator	Enter value of num1 and num2 Enter operator	Num1 = 5 Num2 = -3 Op = +	Answer should be = 2	As expected	Pass
8	Input negative values of num1 and num2 and subtraction operator	Enter value of num1 and num2 Enter operator	Num1 = -5 Num2 = -3 Op = -	Answer should be = -2	As expected	Pass
9	Input positive value of num1 and negative num2 and subtraction operator	Enter value of num1 and num2 Enter operator	Num1 = 5 Num2 = -3 Op = -	Answer should be = 8	As expected	Pass

10	Input negative values of num1 and num2 and multiplication operator	Enter value of num1 and num2 Enter operator	Num1 = -5 Num2 = -3 Op = *	Answer should be = 15	As expected	Pass
11	Input negative value of num1 and positive num2 and multiplication operator	Enter value of num1 and num2 Enter operator	Num1 = -5 Num2 = 3 Op = *	Answer should be = -12	As expected	Pass
12	Input negative values of num1 and num2 anddivision operator	Enter value of num1 and num2 Enter operator	Num1 = -9 Num2 = -3 Op = /	Answer should be = 3	As expected	Pass
13	Input negative value of num1 and positive num2 and division operator	Enter value of num1 and num2 Enter operator	Num1 = -9 Num2 = 3 Op = /	Answer should be = -3	As expected	Pass
14	Input 0 as num1 and int value as num1 and division operator	Enter value of num1 and num2 Enter operator	Num1 = 0 Num2 = 3 Op = /	Answer should be = 0	As expected	Pass
15	Input int as num1 and 0 value as num1 and division operator	Enter value of num1 and num2 Enter operator	Num1 = 5 Num2 = 0 Op = /	Math error or cant divide by zero 0r terminate the program	Ends program with **inf** written at the end.	Pass
16	Input num1 as char and num1 as int and addition operator	Enter value of num1 and num2 Enter operator	Num1 = w Num2 = 3 Op = +	It must terminate the program	Prints cout statements and then ends the program	Fail
17	Input num1 as int and num2 as char and addition operator	Enter value of num1 and num2 Enter operator	Num1 = 7 Num2 = q Op = +	It must terminate the program	Prints cout statements and then ends the program	Fail
18	Input both num1 and num2 as char and addition operator	Enter value of num1 and num2 Enter operator	Num1 = w Num2 = q Op = +	It must terminate the program w/o taking value of y	Prints cout statements and then ends the program	Fail

19	Input int values f num1 and num2 but input invalid operator	Enter value of num1 and num2 Enter operator	Num1 = 9 Num2 = 3 Op = $	Answer = invalid operator	As Expected	Pass

TC-15 **TC-17**



Task 02: Write a program (Any language) for the flow chart given below. Observe the output and Test it using a template. /*attach Printout of code and Test template here*/

SOURCE CODE:

```
#include <iostream>
using namespace std;

void pow (int x, int y)  {

    float z;
    int p;
    if (y < 0) {
        p = 0 - y;
        }
    else{
        p = y;
        }
    z = 1.0;
    while (p != 0)  {
        z = z * x;
        p = p - 1;
     }
     if (y < 0){
        z = 1.0 / z;
        }
     cout<<"the answer is: "<<z;
 }

int main(){

    int x,y;
    cout<<"enter value of x: "<<endl;
    cin>>x;
    cout<<"enter value of y: "<<endl;
    cin>>y;
    pow(x,y);

    return 0;

}
```

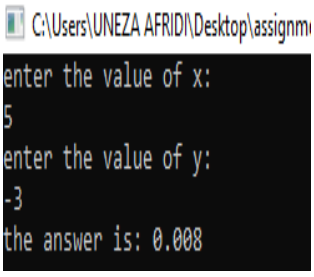
Project Name: Power Of A Number	
Test Case ID: Power_TESE78	**Test Designed By:** Unaiza Afridi
Test Priority (Low/Medium/High): Med	**Test Design Date:** 25-07-2021
Module Name: Do_Calculation	**Test Executed By:** Unaiza Afridi
Test Title: Test the flow of the graph	**Test Execution Date:** 25-07-2021
Description: Verify that the given chart is able to find x to the power of y.	
Pre-conditions: Not Required	
Dependencies: No dependencies in this test.	

S. No.	Test Case	Test Steps	Test Data	Expected Output	Actual Output	Status
1	Input positive value of x and y	Enter positive value of x and y	x = 5 y = 2	Answer should be = 25	As Expected	Pass
2	Input positive value of x and negative of y	Enter positive value of x and negative y	x = 5 y = -2	Answer should be = 0.04	As Expected	Pass
3	Input negative value of x and positive of y	Enter negative value of x and positive y	x = -5 y = 3	Answer should be = -125	As Expected	Pass
4	Input negative value of x and y	Enter negative value of x and y	x = -5 y = -2	Answer should be = 0.04	As Expected	Pass

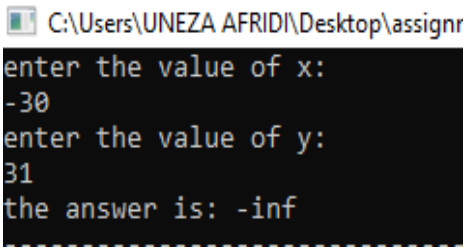
5	Input float value for x and int value for y	Enter float value of x and int value of y	x = 4.5 y = 2	It must terminate the program	Prints cout statements and then ends the program giving 1 at the end.	Fail
6	Input int value for x and float value for y	Enter int value of x and float value of y	x = 4 y = 2.5	It must terminate the program	Rounds off the value of y and then find the answer	Fail
7	Input float value for both x and y	Enter float value of both x and y	x = 4.5 y = 2.5	It must terminate the program	Prints cout statements and then ends the program giving 1 at the end.	Fail
8	Input char value for x and int value for y	Enter char value of x and int y	x = h y = 2.5	It must terminate the program	Prints cout statements and then ends the program giving 0 at the end.	Fail
9	Input int value for x and char value for y	Enter int value of x and char y	x = 9 y = g	It must terminate the program	Ends the program giving 1 at the end.	Fail

10	Input char value for both x and y	Enter char value of both x and y	x = h y = g	It must terminate the program w/o taking value of y	Prints cout statements and then ends the program giving 0 at the end.	Fail
11	Input large positive int value for both x and y	Enter large value of both x and y	x = 30 y = 30	Must provide the correct answer	Answer = inf Calculate till 30 to the power 26	Fail
12	Input positive large value for x and negative large value for y	Enter large value of both x and y and negative y	x = 25 y = -30	Must provide the correct answer	Answer = 0	Fail
13	Input negative large value for x and positive large value for y	Enter large negative value of x and positive large value of y	x = -30 y = 31	Must provide the correct answer	Answer is **inf**	Fail

TC-02:



TC-13:



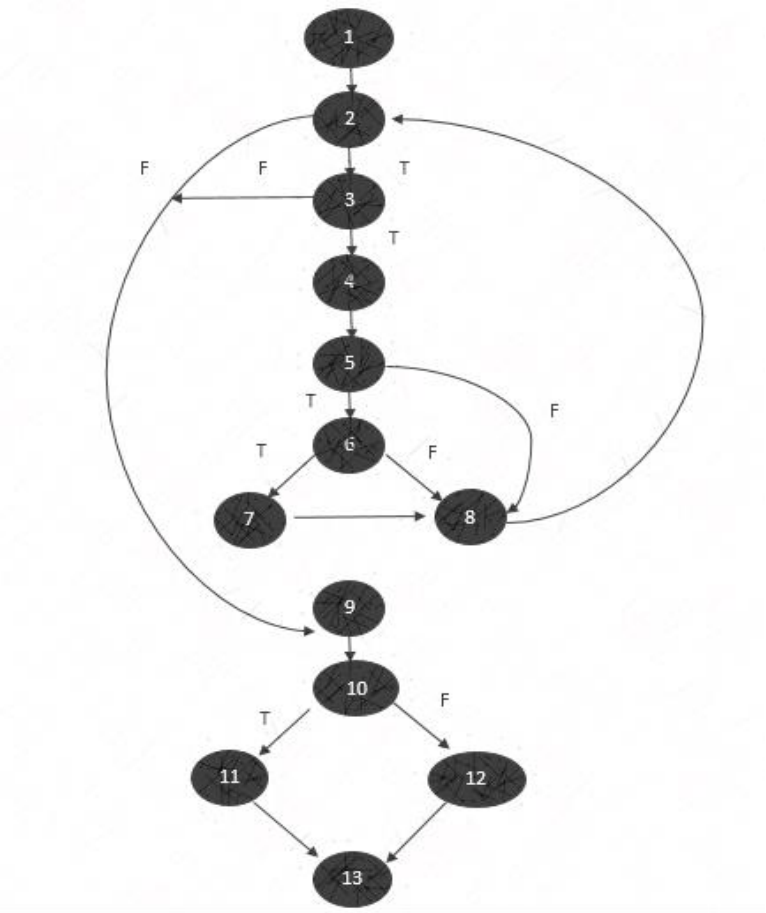
LAB # 04: White Box Testing

EXERCISE:

Task 01: Consider the code given below. Calculate cyclomatic complexity and no. of linearly independent paths Design Test cases for each path and test it using template.

Solution:

Step 1: Draw Control flow graph.



Step 2: calculate cyclomatic complexity

V(G) = E-N+2
=17 – 13 + 2
=6

Step 3: Find linearly independent paths

Path1: 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 2 – 3 – 9 – 10 – 11 -13
Path2: 1 – 2 – 3 – 4 – 5 – 6 – 7 – 8 – 2 – 3 – 9 – 10 – 12 – 13
Path3: 1 – 2 – 9 – 10 – 11 – 13

Path4: 1 - 2 - 9 - 10 - 12 - 13
Path5: 1 - 2 - 3 - 9 - 10 - 11 - 13
Path6: 1 - 2 - 3 - 9 - 10 - 12 – 13

Project Name:	Lab 04
Test Case ID:	Tc-q1-01
Test Title:	Q1 Testing
Test Priority:	Low
Module Name:	Test all paths
Designed By:	Mahnoor Qazi
Designed Date:	28-07-21
Executed By:	Mahnoor Qazi
Executed Date:	28-07-21
Description of Test:	Program testing

S.no	**Test Case**	**Test Steps**	**Test Data**	**Expected Output**	**Actual Output**	**Pass/ Fail**
Tc-q1-01	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = 0, total.input =0, total.valid = 5	Path 1 executed	Path 1 executed	Pass
Tc-q1-02	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = 0, total.input =0, total.valid = -5	Path 2 executed	Path 2 executed	Pass
Tc-q1-03	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = -999, total.input =90, total.valid = 5	Path 3 executed	Path 3 executed	Pass

Tc-q1-04	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = -999, total.input =90, total.valid = -5	Path 4 executed	Path 4 executed	Pass
Tc-q1-05	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = 0, total.input =150, total.valid = 5	Path 5 executed	Path 5 executed	Pass
Tc-q1-06	Give values of value[i], total.input, total.valid	Give values of value[i], total.input, total.valid	value[i] = 0, total.input =150, total.valid = -5	Path 6 executed	Path 6 executed	Pass

Task 02: Consider the flow chart given below and design test cases by using statement coverage method, also execute test cases using template.

Statement coverage method:

Test case 1:
(x, y) = (3, -1)
Path covered: 1,2,4,5…6, 7,8,9
Statement coverage = No. of statements covered by test case / total no. of statements x 100
= 8/ 9 x 100
= 88.88 %

Test case 2:
(x, y) = (3, 1)
Path covered: 1,3,4,5…6,7,9
Statement coverage = No. of statements covered by test case / total no. of statements x 100
= 7 / 9 x 100
= 77.77 %

Manual Testing:

Project Name:	Lab 04
Test Case ID:	Tc-q2-01
Test Title:	Q2 Testing

Test Priority:	Low
Module Name:	Check values
Designed By:	Mahnoor Qazi
Designed Date:	28-07-21
Executed By:	Mahnoor Qazi
Executed Date:	28-07-21
Description of Test:	Find value of z

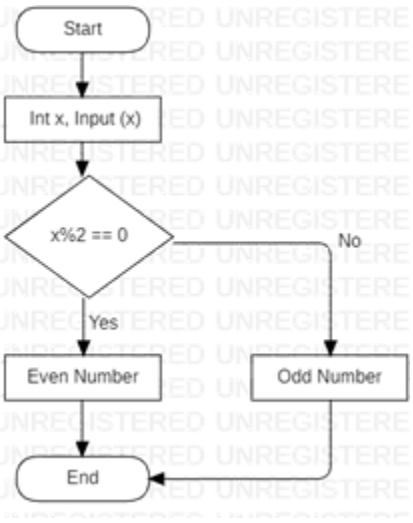
S.no	Test Case	Test Steps	Test Data	Expected Output	Actual Output	Pass/ Fail
Tc-q2-01	Don't enter values of x and y	1)Enter nothing 2) Execute	N/A	Undefined error	Undefined error	Pass
Tc-q2-02	Enter value of x and not y	1)Enter value of x 2)Execute	x = 3 N/A	Can't read undefined value	Can't read undefined value	Pass
Tc-q2-03	Enter value of y and not x	1)Enter value of y 2)Execute	N/A y = -1	Can't read undefined value	Can't read undefined value	Pass
Tc-q2-04	Enter value of y<0	1)Enter value of x 2)Enter value of y 3)Execute	x = 3 y = -1	z = 1/3	z = 1/3	Pass
Tc-q2-05	Enter value of y>0	1)Enter value of x 2)Enter value of y 3)Execute	x = 3 y = 1	z = 3	z = 3	Pass

<u>Task 03:</u> Write a program(Any Language) to find odd or even numbers. Design and execute test cases using branch coverage method using template.

Code:

```
int x;
cout<< “Enter a number”;
cin>>x;
if(x % 2 ===0){
        cout<< “The number”<< x << “is even”; }
Else{
        cout<< “The number”<< x << “is odd”;  }
```

Flow diagram:



Branch coverage:

Test case 1: input(x) = 6
Path covered: 1,2,3
Branch coverage = No. of branches covered by test case / total no. of branches x 100
= 1 / 2 x 100
= 50 %
Test case 2: input(x) = 5
Path covered: 1,2,4
Branch coverage = No. of branches covered by test case / total no. of branches x 100
= 1 / 2 x 100
= 50 %

Manual Testing:

Project Name:	Lab 04
Test Case ID:	Tc-q3-01
Test Title:	Q3 Testing

Test Priority:	Low
Module Name:	Check even or odd number
Designed By:	Mahnoor Qazi
Designed Date:	8-07-21
Executed By:	Mahnoor Qazi
Executed Date:	28-07-21
Description of Test:	Find even or odd

S.no	Test Case	Test Steps	Test Data	Expected Output	Actual Output	Pass/ Fail
Tc-q3-01	Don't enter value of x	1)Enter nothing 2) press enter	N/A	Enter value	Enter value	Pass
Tc-q3-02	Checking even value	1)Enter even number 2)press enter	x = 6	The number 6 is even	The number 6 is even	Pass
Tc-q3-03	Checking odd value	1)Enter odd number 2)press enter	x = 5	The number 5 is odd	The number 5 is odd	Pass
Tc-q3-04	Enter a character	1)Enter a character 2)press enter	x = apple	The number 0 is even	Value should be a number	Fail

LAB # 05: Binary Search and Bubble Sort Program Testing

:

Task 01: Recall the logic of Binary Search Algorithm, Code and Test it using Any Method. /*Attach printout of code & Test Execution Summary here*/

Code:

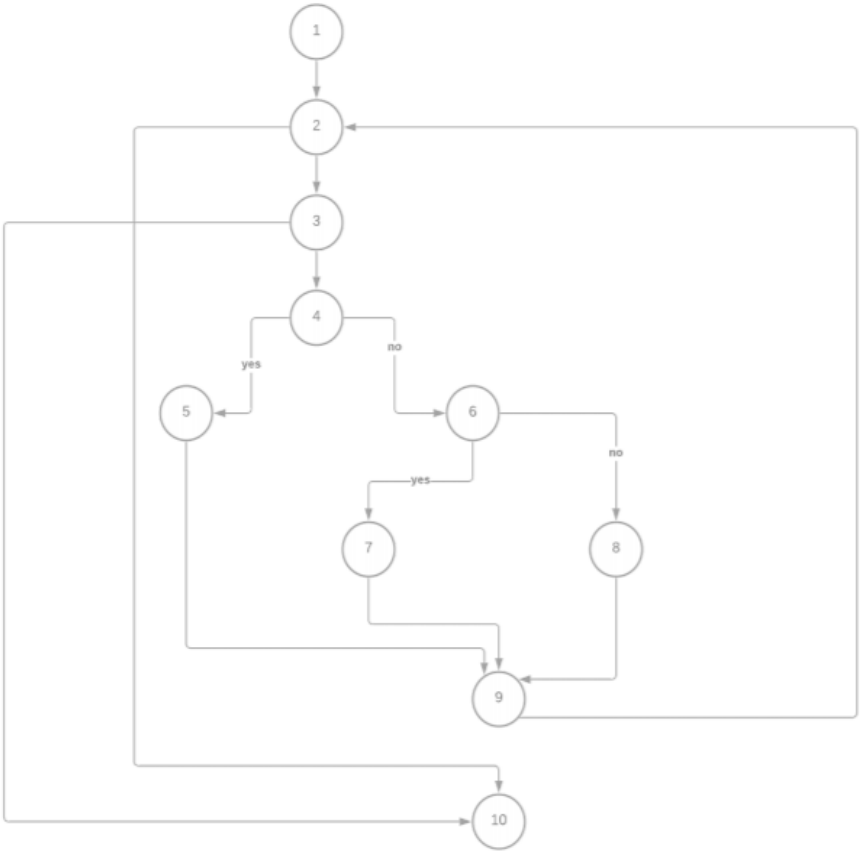
```
def binarySearch (sortedArray, searchValue):

    bottom = 0 #1
    top = len(sortedArray) - 1 #1
    found = False #1
    location = -1 #1

        #2                  #3
    while((bottom <= top) and not found):
        middle = int((top+bottom)/2) #4

        if(searchValue == sortedArray[middle]): #4
            found = True #5
            location = middle #5

        elif (searchValue < sortedArray[middle]): #6
            top = middle - 1 #7

        else: #8
            bottom = middle + 1 #8
        # end while #9
    return location #10
# Driver Code
```

```
    return location #10
# Driver Code
array = []

print("Enter the length of array: ")
inp = int(input())

for i in range(0, inp):
    print("Enter " ,i+1 , " element in sorted order")
    num = int(input())
    array.append(num)

print("Element to be searched = ")
searchValue = int(input())

# Function call
result = binarySearch(array, searchValue)
if result != -1:
    print(array)
    print ("Element is present at index % d" % result )
else:
    print ("Element is not present in array")

```

Basis Path Method:

```
public int binarySearch(int sortedArray[ ], int searchValue)
{
    int bottom = 0;
    int top = sortedArray.length - 1;
    int middle, locationOfsearchValue;
    boolean found = flase;
    locationOfsearchValue = -1;        /* the location of searchValue in the sortedArray   */
                                       /* location = -1 means that searchValue is not found */
    while ( bottom <= top && !found)
    {
        middle = (top + bottom)/2;
        if (searchValue == sortedArray[ middle ])
        {
            found = true;
            locationOfsearchValue = middle;
        }
        else if (searchValue < sortedArray[ middle ])
                top = middle - 1;
        else
                bottom = middle + 1;
    } // end while
    return locationOfsearchValue;
}
```

Control Flow Graph:



Cyclomatic Complexity: Here, E=13 & N=10.

Therefore, V(G) = E-N+2
V(G) = 13 - 10 + 2 = 5

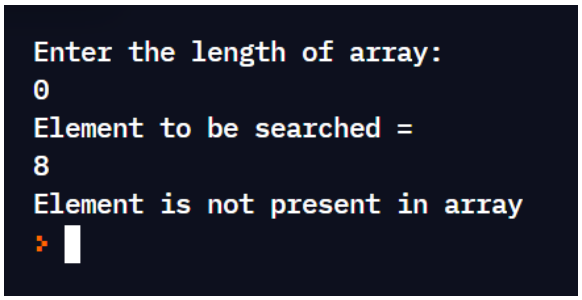
Independent Paths:
Path 1: 1 2 10
Path 2: 1 2 3 10
Path 3: 1 2 3 4 5 9 2 3 10
Path 4: 1 2 3 4 6 7 9 2 3 10
Path 5: 1 2 3 4 6 8 9 2 3 10

Test Cases:

Path No	Test Cases	inp	array	searchValue	bottom	top	middle	found	location
1	**TC-BS-001**	0	-	8	0	-1	-	false	-1
2	**TC-BS-002**	1	[6]	10	0	0	0	false	-1
3	**TC-BS-003**	3	[2,4,6]	4	0	2	1	true	1
4	**TC-BS-004**	3	[3,7,9]	3	0	2	1	true	0
5	**TC-BS-005**	3	[5,10,15]	15	0	2	1	true	2

Output's Screenshots:

Path 1: TC-BS-001:



Path 2: TC-BS-002:

```
Enter the length of array:
1
Enter  1  element in sorted order
6
Element to be searched =
10
Element is not present in array
```

Path 3: TC-BS-003:

```
Enter the length of array:
3
Enter  1  element in sorted order
2
Enter  2  element in sorted order
4
Enter  3  element in sorted order
6
Element to be searched =
4
[2, 4, 6]
Element is present at index  1
```

Path 4: TC-BS-004:

```
Enter the length of array:
3
Enter  1  element in sorted order
3
Enter  2  element in sorted order
7
Enter  3  element in sorted order
9
Element to be searched =
3
[3, 7, 9]
Element is present at index  0
```

Path 5: TC-BS-005:

```
Enter the length of array:
3
Enter  1  element in sorted order
5
Enter  2  element in sorted order
10
Enter  3  element in sorted order
15
Element to be searched =
15
[5, 10, 15]
Element is present at index  2
```

Test Summary Report:

Project Name: Algorithm
Module Name: Binary Search Algorithm
Created By: Ariba Asif
Date: 20/07/21
Test Scenario ID: TC-BS-001
Test Scenario Description: Verify different outputs of the algorithm.

Test Case ID	Description	Test Data			Expected Output	Actual Output	Status
		inp	array	searchValue			
TC-BS-001	Put bottom > top (invalid)	0	-	8	Elements should not be found.	Element not found.	Pass.
TC-BS-002	Put bottom = top but element not in array	1	[6]	10	Elements should not be found.	Element not found.	Pass.

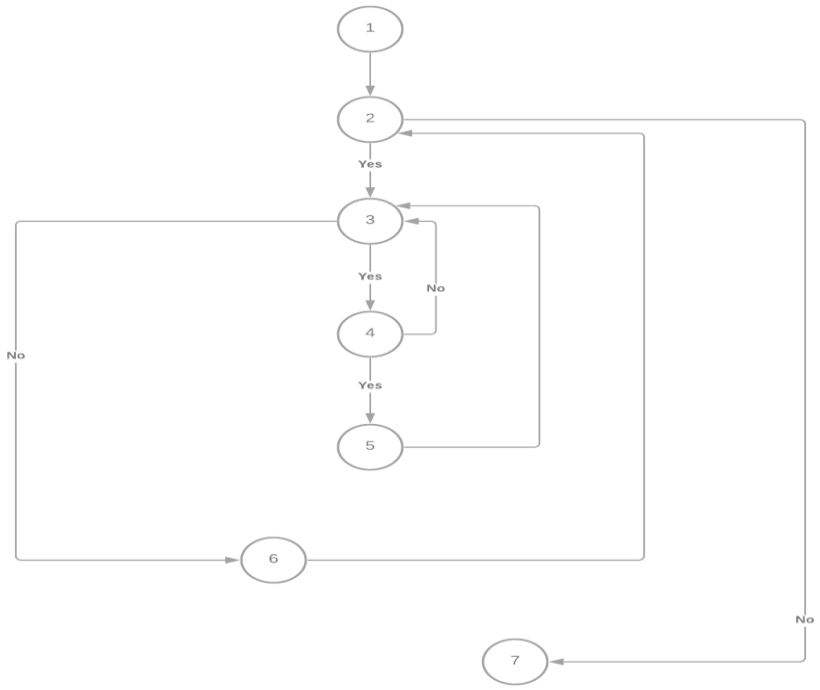
TC-BS-003	Find the element in the middle.	3	[2,4,6]	4	Element should be found at index 1.	Element is found at index 1.	Pass.
TC-BS-004	Put bottom <= top, the middle is calculated but search value < array[middle] so top = middle -1 and repeat	3	[3,7,9]	3	Element should be found at index 0.	Element is found at index 0.	Pass.
TC-BS-005	Put bottom < top, the middle is calculated but search value > array[middle] so bottom = middle + 1 and repeat	3	[5,10,15]	15	Element should be found at index 2.	Element is found at index 2.	Pass.

Task 02: recall the logic of bubble sort algorithm; and Test it using Any Method using a template. /* Attach printout of code & Test Execution Summary here*/

Code:

```
def bubbleSort(array):
    length = len(array) #1

    for i in range(0, length): #2
        for j in range(0, length-i-1): #3
            if array[j] > array[j + 1] : #4
                tmp = array[j]  #5
                array[j] = array[j+1] #5
                array[j+1] = tmp #5
                #6
array = []
print("Enter array size=")
num = int(input())
print("Enter", num,"items")

for i in range(num):
    num = int(input())
    array.append(num)
bubbleSort(array)

print ("Sorted array is:")
for i in range(len(array)):
    print ("% d" % array[i]),
```

Basis Path Method:



Cyclomatic Complexity: Here, E=9 & N=7.
Therefore, V(G) = E-N+2
V(G) = 9 - 7 + 2 = 4

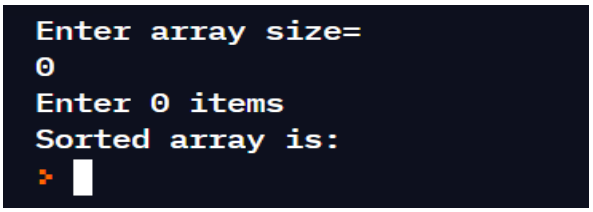
Independent Paths:
Path 1: 1 2 7
Path 2: 1 2 3 6 2 7
Path 3: 1 2 3 4 3 6 2 7
Path 4: 1 2 3 4 5 3 6 2 7

Test Cases:

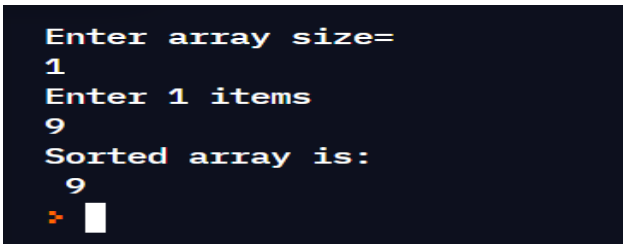
Path No	Test Cases	num	array
1	**TC-BS-001**	0	-
2	**TC-BS-002**	1	[9]
3	**TC-BS-003**	6	[3,6,9,12,15,18]
4	**TC-BS-004**	6	[9,2,5,1,6,3]

Output's Screenshots:

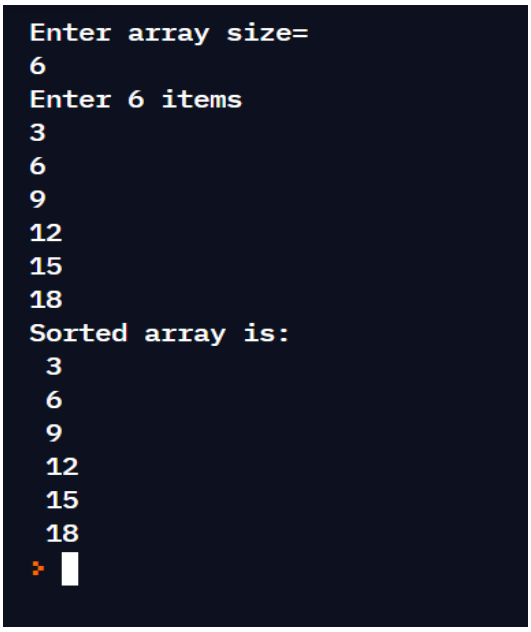
Path 1: TC-BS-001:



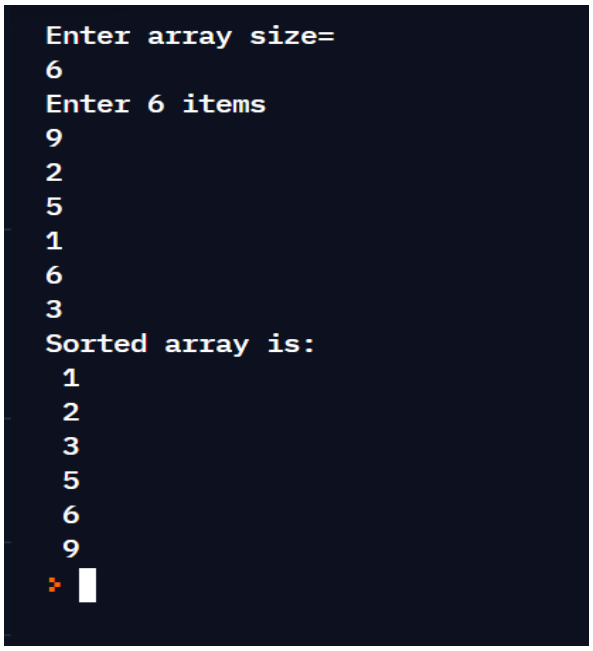
Path 2: TC-BS-002:



Path 3: TC-BS-003:



Path 4: TC-BS-004:



Test Summary Report:

Project Name: Algorithm
Module Name: Bubble Sort Algorithm
Created By: Ariba Asif
Date: 20/07/21
Test Scenario ID: TC-BS-001
Test Scenario Description: Verify different outputs of the algorithm.

Test Case ID	Description	Test Data		Expected Output	Actual Output	Status
		num	array			
TC-BS-001	Give ‘0’ array length to follow path 1.	0	-	No sorting should be done.	No element sorted	Pass.
TC-BS-002	Sort only 1 element to follow path 2.	1	[9]	No sorting should be done.	As Expected	Pass.
TC-BS-003	Provide a sorted array to follow path 3.	6	[3,6,9,12,15,18]	No sorting required and output should be the same as input.	No sorting done and output is [3,6,9,12,15,18]	Pass.
TC-BS-004	Provide an unsorted array to follow path 5.	6	[9,2,5,1,6,3]	Array should be sorted and output should be [1,2,3,5,6,9]	As Expected	Pass.

Lab 06A: Black Box Testing: Decision Table

EXERCISE: Design and develop a program in a language of your choice to solve the triangle problem defined as follows : Accept three integers which are supposed to be the three sides of triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Derive test cases for your program based on decision-table approach, execute the test cases and discuss the results

Conditions:
- $a < b + c$?
- $b < a + c$?
- $c < a + b$?

} a, b, c, form a triangle?

- $a = b$?
- $a = c$?
- $b = c$?

Actions:
- Not a Triangle
- Scalene
- Isosceles
- Equilateral
- Impossible

i. Make initial decision table consisting of columns (using the formula 2^conditions)

Conditions	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32
C1: a < b + c	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
C2: b < a + c	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
C3: c < a + b	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F
C4: a = b	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F
C5: a = c	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F
C6: b = c	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F
Actions																																
A1: Not triangle									X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A2: Scalene								X																								
A3: Isosceles				X		X	X																									
A4: Equilateral	X																															
A5: Impossible		X	X		X																											

Conditions	R33	R34	R35	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54	R55	R56	R57	R58	R59	R60	R61	R62	R63	R64
C1: a < b + c	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
C2: b < a + c	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
C3: c < a + b	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F	T	T	T	T	T	T	T	T	F	F	F	F	F	F	F	F
C4: a = b	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F	T	T	T	T	F	F	F	F
C5: a = c	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F	T	T	F	F
C6: b = c	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F	T	F
Actions																																
A1: Not triangle	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
A2: Scalene																																
A3: Isosceles																																
A4: Equilateral																																
A5: Impossible																																

ii. Reduce the table to remove redundant/impossible scenarios.

Conditions	R1	R2	R3	R4	R5	R6	R7	R8	R9-R16	R17-R32	R33-R64
C1: a < b + c	T	T	T	T	T	T	T	T	T	T	F
C2: b < a + c	T	T	T	T	T	T	T	T	T	F	_
C3: c < a + b	T	T	T	T	T	T	T	T	F	_	_
C4: a = b	T	T	T	T	F	F	F	F	_	_	_
C5: a = c	T	T	F	F	T	T	F	F	_	_	_
C6: b = c	T	F	T	F	T	F	T	F	_	_	_
Actions											
A1: Not triangle								X	X	X	X
A2: Scalene								X			
A3: Isosceles				X		X	X				
A4: Equilateral	X										
A5: Impossible		X	X		X						

Conditions	R1	R4	R6	R7	R8	R9-R16	R17-R32	R33-R64
C1: a < b + c	T	T	T	T	T	T	T	F
C2: b < a + c	T	T	T	T	T	T	F	_
C3: c < a + b	T	T	T	T	T	F	_	_
C4: a = b	T	T	F	F	F	_	_	_
C5: a = c	T	F	T	F	F	_	_	_
C6: b = c	T	F	F	T	F	_	_	_
Actions								
A1: Not triangle						X	X	X
A2: Scalene					X			
A3: Isosceles		X	X	X				
A4: Equilateral	X							
A5: Impossible								

iii. Write test cases for reduced decision tables.

Test Case ID	a	b	c	Expected O/P	Actual O/P	Status
1	1	2	7	Not a triangle	Not a triangle	Pass
2	2	11	3	Not a triangle	Not a triangle	Pass
3	15	3	2	Not a triangle	Not a triangle	Pass
4	5	5	5	Equilateral	Equilateral	Pass
5	6	6	9	Isosceles	Isosceles	Pass

6	6	9	6	Isosceles	Isosceles	Pass
7	9	6	6	Isosceles	Isosceles	Pass
8	16	13	10	Scalene	Invalid Input	**Fail**

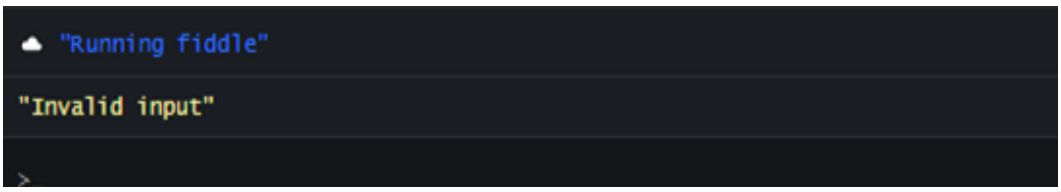
iv. Execute code for triangle problem and execute test cases (iii). Attach printout(code/output and test execution summary here*/

CODE:

```
let a = prompt("Enter value of a");
let b = prompt("Enter value of b");
let c = prompt("Enter value of c");
a = parseInt(a);
b = parseInt(b);
c = parseInt(c);

if (a < 1 || a > 10 || (b < 1 || b > 10) || (c < 1 || c > 10)) {
            console.log("Invalid input");
}
else {
        if (a < b + c && b < a + c && c < a + b) {
              if (a === b && b === c) {
                  console.log('Equilateral Triangle');
              } else if (a == b || a == c || b == c) {
                  console.log('Isosceles Triangle');
              }
              else {
                 console.log('Scalene Triangle');
              }
         }
         else {
               console.log('Not a triangle');  }
}
```

OUTPUT:

When a = 16, b = 13, c = 10:



TEST EXECUTION SUMMARY:

Total no. of test cases	No. of test cases executed	No. of test cases passed	No. of test cases failed	Test cases aborted
8	8	7	1	0

-

2. Consider a library management system (LMS) which issues book(s) to a registered user by checking the outstanding fee i.e. if a registered user have no pending fee then requested book may be issued(if and only if the potential user has under borrow limit)

i. Make initial decision table consisting of columns (using the formula 2^conditions)

Conditions	R1	R2	R3	R4	R5	R6	R7	R8
C1: Registered	F	F	F	F	T	T	T	T
C2: No pending fee	F	F	T	T	F	F	T	T
C3: Under borrow limit	F	T	F	T	F	T	F	T
Actions								
A1: Issue books	NO	NO	NO	NO	NO	NO	NO	YES

ii. Reduced the table to remove redundant/impossible scenarios.

Conditions	R1-R4	R5-R6	R7	R8
C1: Registered	F	T	T	T
C2: No pending fee	_	F	T	T
C3: Under borrow limit	_	_	F	T
Actions				
A1: Issue books	NO	NO	NO	YES

iii. Write test cases for reduced decision table.

Test Case ID	Registered	No Pending Fee	Under Borrow Limit	Expected O/P	Actual O/P	Status
1	yes	yes	yes	YES	YES	Pass

2	no	no	yes	NO	NO	Pass
3	yes	no	no	NO	NO	Pass
4	yes	yes	no	NO	NO	Pass

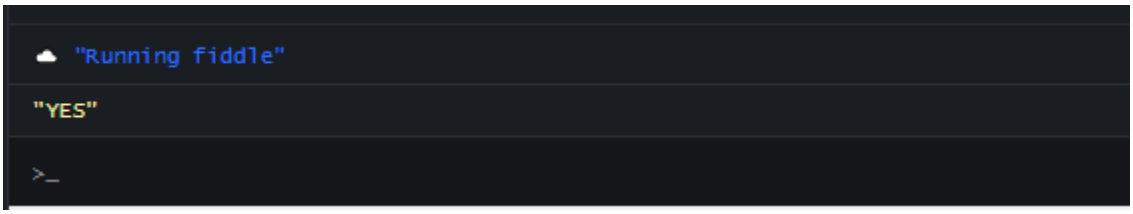
iv. Execute code for LMS problem and execute test cases (iii) Attach printout(code/output and test execution summary here*/

CODE:

```
let c1 = prompt("User registered?");
let c2 = prompt("No pending fee?");
let c3 = prompt("Under Borrow limit?");
if (c1=="yes" && c2=="yes" && c3=="yes"){
        console.log("YES");
}
else {  console.log("NO");  }
```

OUTPUT:

When c1 = yes, c2 = yes, c3= yes:



TEST EXECUTION SUMMARY:

Total no. of test cases	No. of test cases executed	No. of test cases passed	No. of test cases failed	Test cases aborted
4	4	4	0	0

Lab 06B: Equivalence Class Partitioning (ECP)

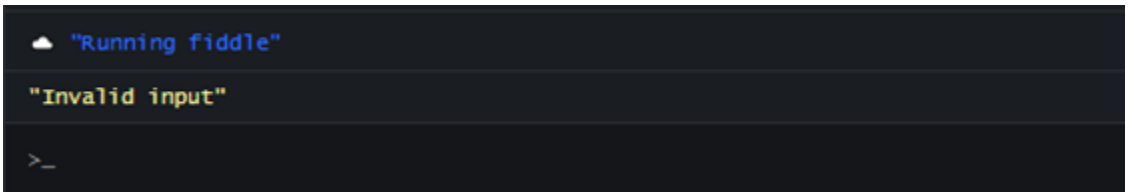
Q: Consider Triangle problem : Design and develop a program in a language of your choice to solve the triangle problem defined as follows : Accept three integers which are supposed to be the three sides of triangle and determine if the three values represent an equilateral triangle, isosceles triangle, scalene triangle, or they do not form a triangle at all. Derive test cases for your program based on the Boundary value approach, reduce the table, execute the test cases and discuss the results. Attach printout (code/output and test execution summary here*/

CODE:

```
let a = prompt("Enter value of a");
let b = prompt("Enter value of b");
let c = prompt("Enter value of c");
a = parseInt(a);
b = parseInt(b);
c = parseInt(c);
if (a < 1 || a > 10 || (b < 1 || b > 10) || (c < 1 || c > 10)) {
            console.log("Invalid input");
}
else {
        if (a < b + c && b < a + c && c < a + b) {
              if (a === b && b === c) {
                 console.log('Equilateral Triangle');
              } else if (a == b || a == c || b == c) {
                  console.log('Isosceles Triangle');
              } else {
                 console.log('Scalene Triangle'); }
         }
         else {
                  console.log('Not a triangle');  }
}
```

OUTPUT:

When a = 20, b = 4, c = 7:

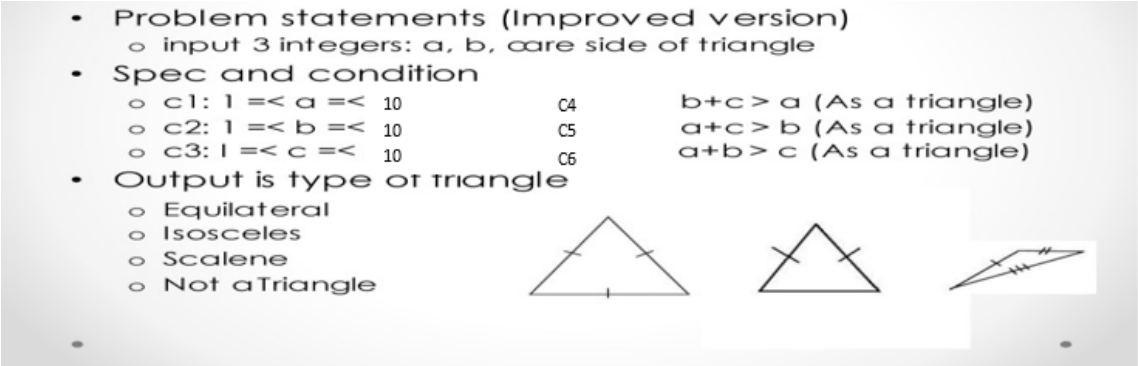


Test Case Name: Equivalence class Analysis for triangle problem

Test Data : Enter the 3 Integer Value(a , b And c)

Pre-Condition : $1 \leq a \leq 10$, $1 \leq b \leq 10$ and $1 \leq c \leq 10$ and $a < b + c$, $b < a + c$ and $c < a + b$

Brief Description : Check whether given value for a Equilateral, Isosceles , Scalene triangle or can't form a triangle



TESTING DESCRIPTION:

Project Name:	Triangle Problem Decision (Equivalence Partitioning)
Test ID:	Solve_Triangle_EP_TESE54
Test Title:	Use Equivalence partitioning approach for triangle problem
Test Priority:	Low
Module Name:	Identify_Triangle
Test Data:	Enter the 3 Integer Value (a, b and c)
Designed By:	Roohana Ashraf
Designed Date:	25/7/2021
Executed By:	Roohana Ashraf
Executed Date:	25/7/2021
Description of Test:	Check whether the given values form an equilateral, isosceles, scalene triangle or no triangle using Boundary Value approach.

PREREQUISITES:

Pre-Conditions:	Range in which testing is to be done: $1 \leq a \leq 10$, $1 \leq b \leq 10$ and $1 \leq c \leq 10$ and $a < b + c$, $b < a + c$ and $c < a + b$
Dependencies:	No dependencies in this test.

First, we'll define valid and invalid classes:

Invalid	Valid	Invalid
<1	1-10	>10

TEST CASE TEMPLATE:

S.no	Case Description	Input Data			Expected Output	Actual Output	Status	Comments
		a	b	c				
1	Test for valid 'a' , valid 'b' and valid 'c'	6	3	3	Isosceles	Isosceles	Pass	--
2	Test for valid 'b', valid 'a' and valid 'c'	3	8	5	Scalene	Scalene	Pass	--
3	Test for valid 'c' , valid 'a' and valid 'b'	6	6	6	Equilateral	Equilateral	Pass	--
4	Test for invalid 'a', valid 'b' and valid 'c'	0	4	7	Invalid Input	Invalid Input	Pass	'a' does not lie in valid class, hence exception raised 'Invalid'
5	Test for invalid 'a', valid 'b' and valid 'c'	20	4	7	Invalid Input	Invalid Input	Pass	'a' does not lie in valid class, hence exception raised 'Invalid'

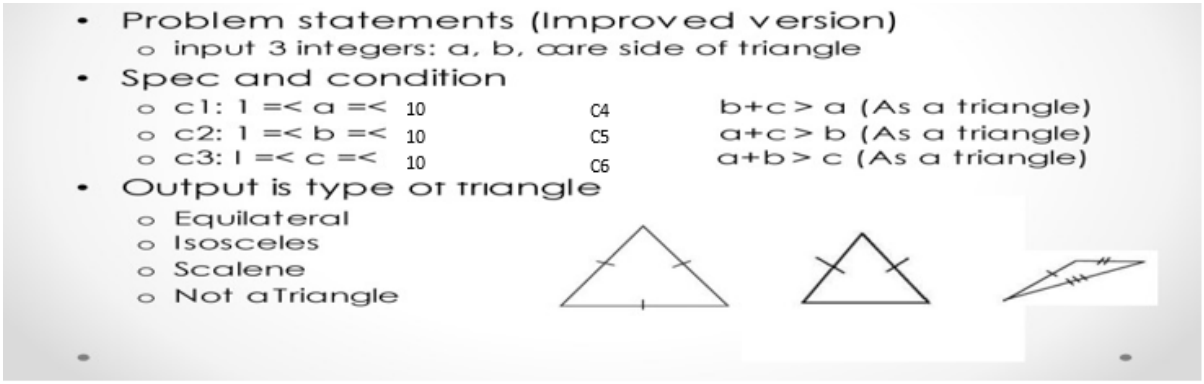
6	Test for invalid ‘b’, valid ‘a’ and valid ‘c’	6	-2	6	Invalid Input	Invalid Input	Pass	‘b’ does not lie in valid class, hence exception raised ‘Invalid’
7	Test for invalid ‘b’, valid ‘a’ and valid ‘c’	4	20	7	Invalid Input	Invalid Input	Pass	‘b’ does not lie in valid class, hence exception raised ‘Invalid’
8	Test for invalid ‘c’, valid ‘a’ and valid ‘b’	5	7	-3	Invalid Input	Invalid Input	Pass	‘c’ does not lie in valid class, hence exception raised ‘Invalid’
9	Test for invalid ‘c’, valid ‘a’ and valid ‘b’	6	6	13	Invalid Input	Invalid Input	Pass	‘c’ does not lie in valid class, hence exception raised ‘Invalid’

TEST EXECUTION SUMMARY:

Total no. of test cases	No. of test cases executed	No. of test cases passed	No. of test cases failed	Test cases aborted
9	9	9	0	0

Lab No. 6C: Boundary Value Analysis

Q: Recall the triangle problem and write test cases using the BVA method using a template. Attach printout(code/output and test execution summary here*/

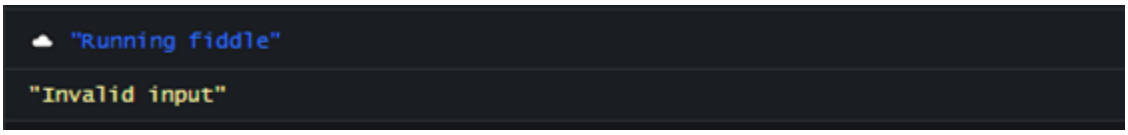


CODE:

```
let a = prompt("Enter value of a");
let b = prompt("Enter value of b");
let c = prompt("Enter value of c");
a = parseInt(a);
b = parseInt(b);
c = parseInt(c);

if (a < 1 || a > 10 || (b < 1 || b > 10) || (c < 1 || c > 10)) {
            console.log("Invalid input");
}
else {
          if (a < b + c && b < a + c && c < a + b) {
              if (a === b && b === c) {
                  console.log('Equilateral Triangle');
              } else if (a == b || a == c || b == c) {
                   console.log('Isosceles Triangle');
              } else {
                 console.log('Scalene Triangle');}
            }
            else {  console.log('Not a triangle');  }
     }
```

OUTPUT:

When a = 4 , b = 6 , c = 11:



TEST DESCRIPTION:

Project Name:	Triangle Problem Decision (Bound Analysis Approach)
Test Case ID:	Solve_Triangle_TESE54
Test Title:	Use bound value analysis approach for triangle problem
Test Priority:	Low
Module Name:	Identify_Triangle
Test Data:	Enter the 3 Integer Value (a, b and c)
Designed By:	Roohana Ashraf
Designed Date:	25/7/2021
Executed By:	Roohana Ashraf
Executed Date:	25/7/2021
Description of Test:	Check whether the given values form an equilateral, isosceles, scalene triangle or no triangle using boundary value analysis approach.

PREREQUISITES:

Pre-Conditions:	Range in which testing is to be done: $1 \leq a \leq 10$, $1 \leq b \leq 10$ and $1 \leq c \leq 10$ and $a < b + c$, $b < a + c$ and $c < a + b$
Dependencies:	No dependencies in this test.

TEST CASE TEMPLATE:

S.no	**Case Description**	**Input Data**			**Expected Output**	**Actual Output**	**Status**	**Comments**
		a	**b**	**c**				
1	Test for boundary values of 'a' with valid 'b' and 'c'	0	5	5	Invalid Input	Invalid Input	Pass	'a' is invalid, hence exception raised 'Invalid'
2	//	1	1	1	Equilateral	Equilateral	Pass	--
3	//	5	6	8	Scalene	Scalene	Pass	--

4	//	10	4	10	Isosceles	Isosceles	Pass	--
5	//	11	8	8	Invalid Input	Invalid Input	Pass	'a' is invalid, hence exception raised 'Invalid'
6	Test for boundary values of 'b' with valid 'a' and 'c'	7	0	8	Invalid Input	Invalid Input	Pass	'b' is invalid, hence exception raised 'Invalid'
7	//	3	1	3	Isosceles	Isosceles	Pass	--
8	//	4	5	9	Scalene	Scalene	Pass	--
9	//	3	10	7	Scalene	Scalene	Pass	--
10	//	4	11	9	Invalid Input	Invalid Input	Pass	'b' is invalid, hence exception raised 'Invalid'
11	Test for boundary values of 'c' with valid 'a' and 'b'	7	8	0	Invalid Input	Invalid Input	Pass	'c' is invalid, hence exception raised 'Invalid'
12	//	3	5	1	Scalene	Scalene	Pass	--
13	//	5	7	5	Isosceles	Isosceles	Pass	--
14	//	10	10	10	Equilateral	Equilateral	Pass	--
15	//	4	6	11	Invalid Input	Invalid Input	Pass	'c' is invalid, hence exception raised 'Invalid'

TEST EXECUTION SUMMARY:

Total no. of test cases	No. of test cases executed	No. of test cases passed	No. of test cases failed	Test cases aborted
15	15	15	0	0

LAB # 07

Select any (previous) project /Application and test it using Any method of your choice
Q1 Write down the brief details of your project

Project Name: FoodQuest
Description: FoodQuest is an application through which restaurants can register and post their details alongwith menu for others to order. Users can register to the website and place the order from any restaurant available in their area, give feedback etc. The riders can earn by collecting the orders from the restaurant and delivering to the user's address by gathering all the relevant details from the application.

Q2 What is the purpose of choosing a selected technique/Method?

State-based testing was chosen as it can validate the system's output against different input conditions. The system's behavior can be recorded for positive and negative inputs. Also, such a method is best suited because we have finite testing conditions in our case.

Q3 Prepare Test cases for at least any 4 main features using any technique. /*Attach Printout here (Also attach screenshots of your Application*/

1) Feature:

When the seller (restaurant owner) adds a menu item successfully, a popup should be shown showing success and he should be redirected to his dashboard showing a list of all the items which are offered by that particular restaurant.

Test summary report:

Project Name: FoodQuest (Browser)
Module Name: Add menu item
Created By: Roohana
Date: 19/4/21
Test Scenario ID: Ts-fq-001
Test Scenario Description: Verify the add item feature of FoodQuest

Test Case ID	Description	Steps	Test Data	Expected Output	Actual Output	Status
Tc-fq-001	Check the GUI	1) Properly aligned text boxes 2) Fonts are properly displayed.	N/A	Text boxes should be properly aligned	As expected	Pass

Tc-fq-002	Select “Add item” button	1) Click on “add item”	N/A	Redirected to add an item page to enter new item’s info.	As expected	Pass
Tc-fq-003	Enter all the relevant info and click “Add”	1) Enter name, description, price and category 2) Upload an image 3) Click “Add”	Pasta Customized 450 Italian pasta.jpg	Show popup (item added successfully) and redirect to seller dashboard	As expected	Pass
Tc-fq-004	Enter an item which is already registered (same name and category combination as previously added)	1) Enter name and category combination already stored in database 2) Enter description, price and upload image 3) Click “Add”	Pasta Custom 700 Italian food.jpg	Show alert (already registered item)	As expected	Pass
Tc-fq-005	Select no image and click “Add”	1) Enter name, description, price and category 2) Click “Add”	Biryani Spicy 200 Desi	Show alert (upload an image)	As expected	Pass
Tc-fq-006	Leave a text field empty and click “Add”	1) Enter name, description and category 2) Upload an image 3) Click “Add”	Burger Extreme Turkey burger.jpg	Show alert (fill in the missing fields)	As expected	Pass
Tc-fq-007	Enter an alphabet in price field	1) Enter name, description, price and category 2) Upload an image 3) Click “Add”	Burger New arrival Veggie Four fifty burger4.jpg	Show alert (only numbers are allowed in price field)	Item is added successf-ully	Fail

Tc-fq-008	Check all items list	1) Select "All items" from the dashboard	N/A	Display all previous items as well as newly added item	As expected	Pass

2) Feature:

When the user selects an item to add to the cart, the cart should show the item, if the item is not available an error message should appear. If the cart is already full, another error message should appear otherwise the item should successfully be added to the cart.

Test summary report:

Project Name: FoodQuest (Browser)
Module Name: Add to Cart
Created By: Mahnoor
Date: 19/4/21
Test Scenario ID: TS-FQ-009
Test Scenario Description: Verify the add to cart feature of Food Quest.

Test Case ID	Description	Steps	Test Data	Expected Output	Actual Output	Status
TC-FQ-009	Check the GUI	Properly aligned text boxes Fonts are properly displayed.	N/A	Text boxes should be properly aligned	Everything is properly aligned.	Pass
TC-FQ-010	Select an item that's not available to see if the button is disabled or not.	Click on an item. Click 'Add to Cart'	N/A	The 'Add to cart' button should be disabled.	The 'Add to cart' button is not disabled.	Fail
TC-FQ-011	Select an item that's not available to see if the error message is displayed or not.	Click on the item. Click 'Add to Cart'	N/A	An error message should be displayed saying the item is not available.	Message is displayed saying the item is not available	Pass

TC-FQ-012	Check the quantity function of this feature.	After selecting the item, select 0 quantity. Click 'Checkout'	N/A	If the quantity selected is '0', the checkout button should be disabled.	The checkout button is not disabled.	Fail
TC-FQ-013	Check the quantity function for error messages.	Select quantity as 0. Click 'Checkout'.	N/A	If the quantity is not Selected , an error message should be displayed skiing to select quantity.	Error message is displayed asking the user to select the quantity.	Pass
TC-FQ-014	Check if all the selected items are displayed in the cart.	Select multiple items. Click 'Add to Cart'.	N/A	The cart should display all the items with correct quantities.	The cart displays all the items with correct quantities	Pass
TC-FQ-015	Check if the total amount adds up when more items are added.	Add a single item to the cart. Check the total. Add 2-3 more items. Check the total.	N/A	The cart should add the price of other added items to the total.	The cart adds the price of all the items and gives the correct total amount.	Pass
TC-FQ-016	Check if the price of the deleted item is subtracted from the total.	Delet 1-3 items from the cart. Check the total.	N/A	The cart should subtract the price of deleted items from the total.	The cart shows the new total amount after subtracting the price of deleted items.	Pass
TC-FQ-017	Check if more items can be added once the cart is full. Maximum 25 items can stay in the cart.	Add the maximum number of items. Add more items. Click 'Add to cart'	N/A	When more than the maximum number of items are added to the cart, an error message should be displayed saying that the cart is full.	More than the maximum number of items are added and no error message is displayed.	Fail

TC-FQ-018	The cart should display ‘0’ number of items once the order is placed.	Place the order. Check the total number of items displayed.	N/A	The total number of items displayed should be 0.	0 is displayed when the cart is empty.	Pass

3) Feature:

When the deliverer visits the dashboard, all the pending orders are displayed from different restaurants. When the deliverer accepts any order, he/she is redirected to the page showing the restaurant’s and delivering location through the map. Once an order is delivered, the status of the order is updated and the deliverer is redirected to his/her dashboard.

Test summary report:

Project Name: FoodQuest (Browser)
Module Name: Pending Orders
Created By: Ariba Asif
Date: 19/4/21
Test Scenario ID: Ts-fq-019
Test Scenario Description: Verify the Pending Orders feature of app

Test Case ID	Description	Steps	Test Data	Expected Output	Actual Output	Status
Tc-fq-019	Check the GUI	1) Properly aligned orders with small descriptions and addresses. 2) Accept Button with each order.	N/A	Every order should be properly aligned with description and button.	As expected	Pass
Tc-fq-020	Select “Accept Order” button	1) Click on “Accept Order” button	N/A	Should redirect to the page showing the restaurant's location.	As expected	Pass
Tc-fq-021	Track the restaurant’s location and select “Order Picked” button	1) Pick the order from the restaurant.	N/A	Should redirect to the page showing delivering	As expected	Pass

		2) Click on the "Order Picked" button.		location through the map		
Tc-fq-022	Track the delivering location and select "Order Delivered" after delivering.	1) Deliver the order at the address displayed by the map. 2) Click on the "Order Delivered" button.	N/A	Should alert "Order Successfully Delivered" and redirect to the dashboard.	As expected	Pass
Tc-fq-023	Check the status of the order.	Check the status of the order at the dashboard.	N/A	Status of the particular order updated from "Pending" to "Delivered"	Status still showing "Pending".	Fail

4) Feature:

A customer can access his/her account due to many reasons. These can be: any mistake done during registration or the user wants to change phone number/delivery address or the user wants to change the payment card, view previous orders, view favorite restaurants, etc.

Test summary report:

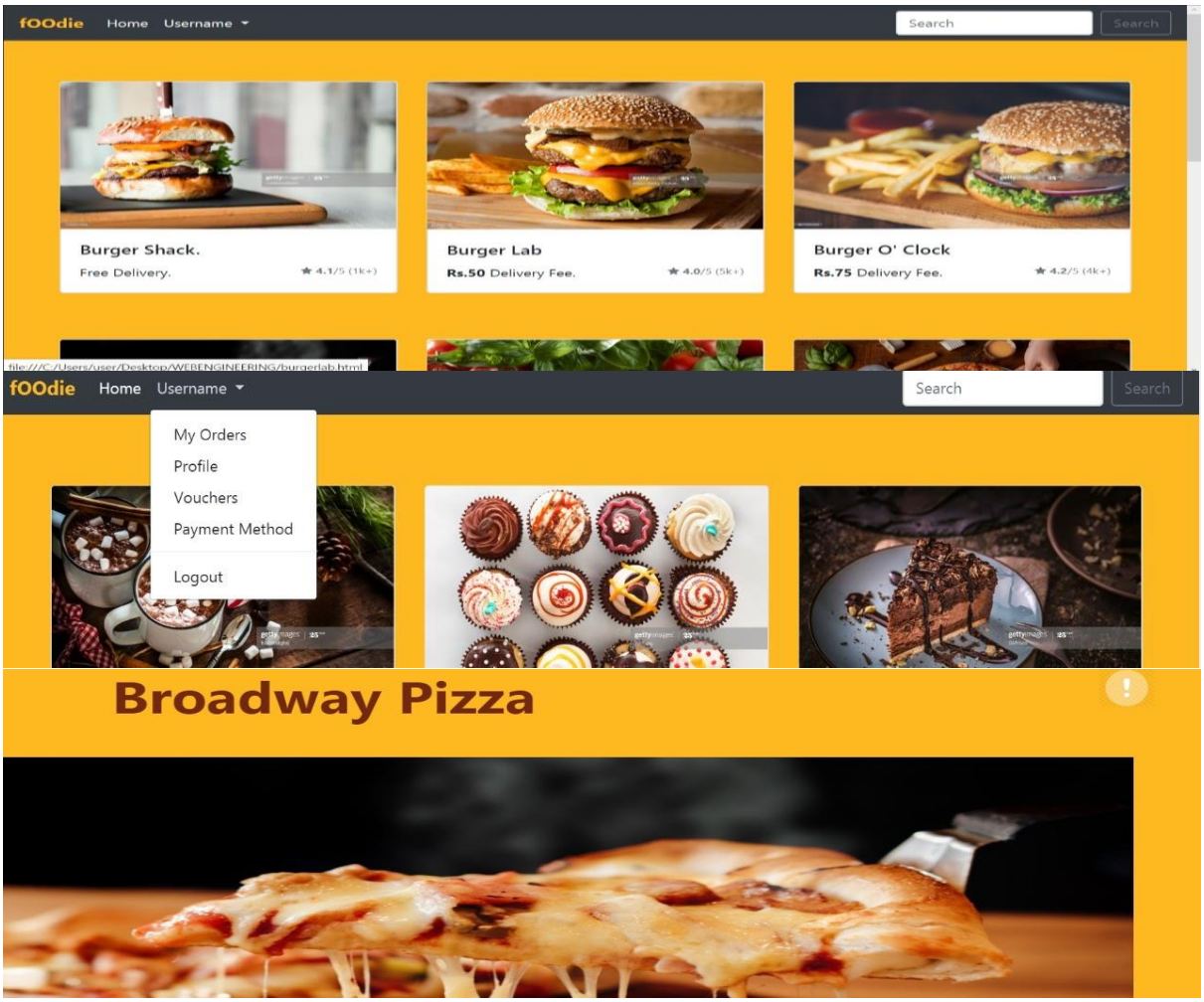
Project Name: FoodQuest (Browser)
Module Name: User Account
Created By: Unaiza Afridi
Date: 19/4/21
Test Scenario ID: Ts-fq-024
Test Scenario Description: View/update user account feature of FoodQuest

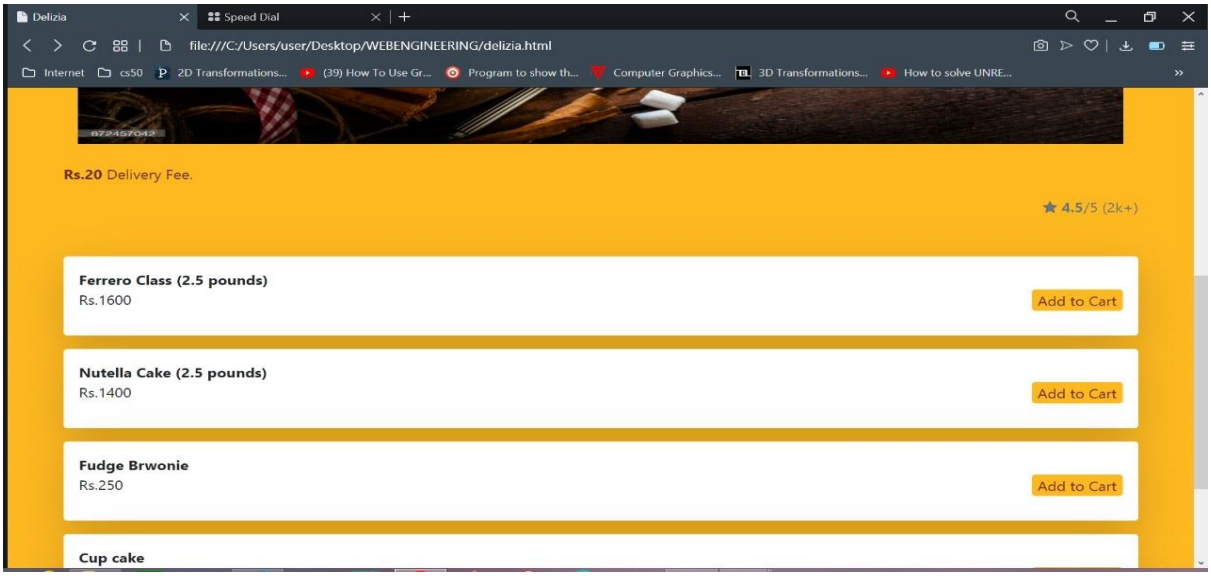
Test Case ID	Description	Steps	Test Data	Expected Output	Actual Output	Status
Tc-fq-024	Check if a user is logged in or not	Goto website then my account Features will be displayed only when a user in logged in	User id password if nor logged in	Logged into an account	As expected	Pass

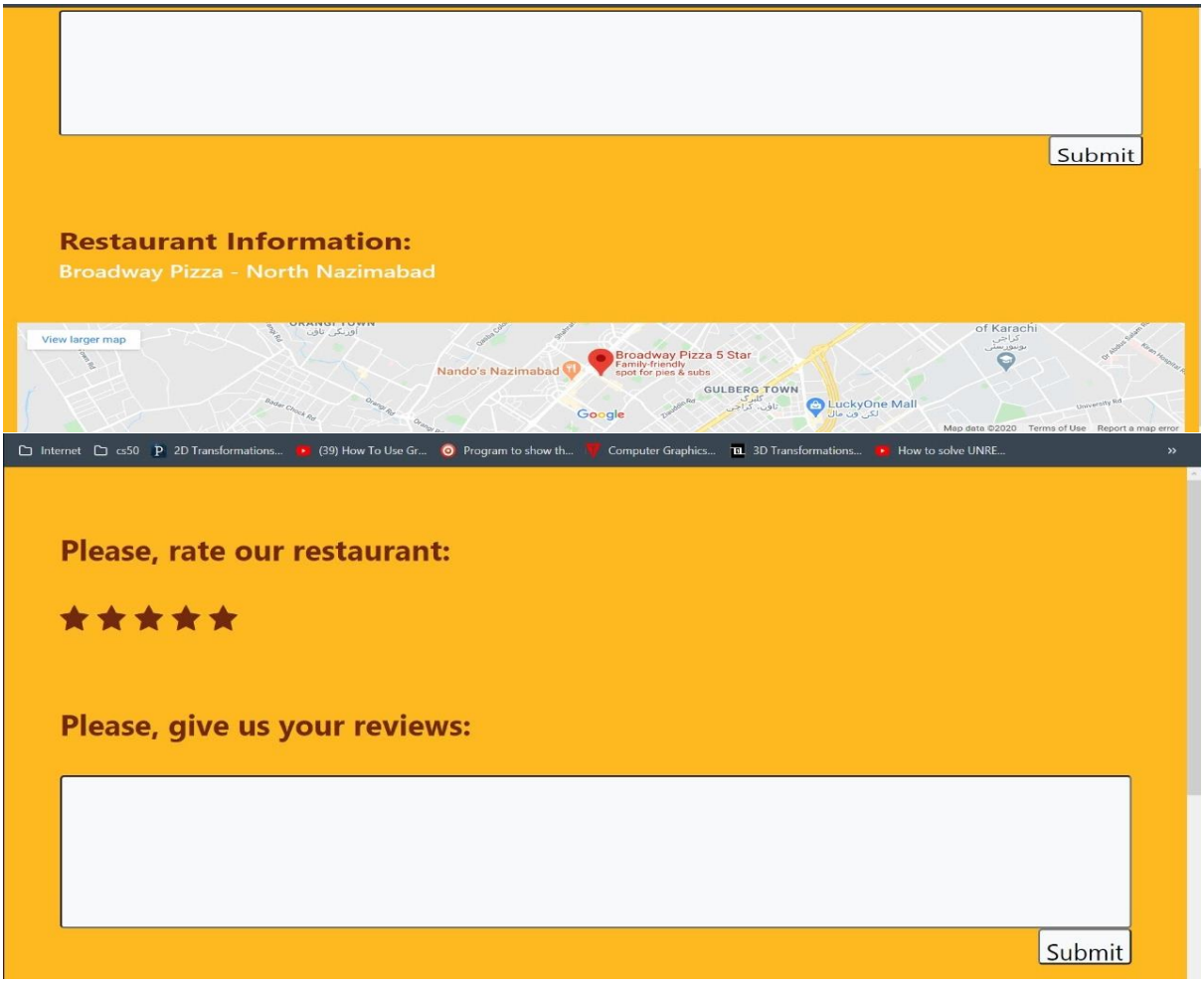
Tc-fq-025	Check the GUI	Properly aligned profile page Fonts are properly displayed.	N/A	Text boxes and fonts should be properly aligned	As expected	Pass
Tc-fq-026	Update address	1) goto profile update address 2) click save button	new address	If the address is valid it will be updated	As expected	Pass
Tc-fq-027	Update and enter address of another country/city	1) goto profile update address 2) click save button	New address	Error message: address not valid	Address updated but it should not have.	fail
Tc-fq-028	Update email using valid or unused email	1) Enter email 2) Click save	New email	Email will be updated	As expected	Pass
Tc-fq-029	Update email using invalid or used email	1) Enter email 2) Click save	Email address	Error message: email invalid or already in use	As expected	Pass
Tc-fq-030	Update password using strong alphanumeric password	1) Enter password 2) Click save	New password	Password updated	As expected	Pass
Tc-fq-031	Update password using weak alphanumeric password	1) Enter password 2) Click save	New password	Error message: use strong password/ password too short	As expected	Pass
Tc-fq-032	View previous orders	1) goto MyOrders	N/A	Previous orders are displayed	As expected	Pass

Tc-fq-033	Repeat previous order/s	1) goto MyOrders 2) click reorder button 3) add to cart	N/A	Order should be added to your cart	As expected	Pass
Tc-fq-034	View favorite restaurants	1) goto favorites	N/A	Favorite restaurants displayed	As expected	Pass
Tc-fq-035	Log out of your account	1) Click logout button	N/A	Acc. logged out and redirected to home page	As expected	Pass

Application's Screenshots:




Delizia
Speed Dial
file:///C:/Users/user/Desktop/WEBENGINEERING/delizia.html
Internet
cs50
2D Transformations...
(39) How To Use Gr...
Program to show th...
Computer Graphics...
3D Transformations...
How to solve UNRE...
Rs.20 Delivery Fee.
4.5/5 (2k+)
Ferrero Class (2.5 pounds)
Rs.1600
Add to Cart
Nutella Cake (2.5 pounds)
Rs.1400
Add to Cart
Fudge Brwonie
Rs.250
Add to Cart
Cup cake


Submit
Restaurant Information:
Broadway Pizza - North Nazimabad
View larger map
Broadway Pizza 5 Star
Family-friendly spot for pies & subs
Nando's Nazimabad
GULBERG TOWN
LuckyOne Mall
Google
Map data ©2020
Terms of Use
Report a map error
Internet
cs50
2D Transformations...
(39) How To Use Gr...
Program to show th...
Computer Graphics...
3D Transformations...
How to solve UNRE...
Please, rate our restaurant:
Please, give us your reviews:
Submit

LAB # 08

EXERCISE: **Design, develop, code and run the program in any suitable language to solve the commission problem. Analyze it using any method of testing, derive different test cases, execute these test cases and discuss the test results.**

Code:

```
#include <stdio.h>
int main() {
int locks, stocks, barrels, tlocks, tstocks, tbarrels;
float lprice, sprice, bprice, sales, comm;
int c1,c2,c3,temp;
lprice=45.0;
sprice=30.0;
bprice=25.0;
tlocks=0;
tstocks=0;
tbarrels=0;
printf("\nEnter the number of locks and to exit the loop enter -1 for locks\n");
scanf("%d",&locks);
while(locks!=-1) {
        c1=(locks<=0||locks>70);
        printf("enter the number of stocks and barrels\n"); scanf("%d%d",&stocks,&barrels);
        c2=(stocks<=0||stocks>80);
        c3=(barrels<=0||barrels>90);
        if(c1)
                printf("value of locks not in the range 1..70 ");
         else {
                temp=tlocks+locks;
        if(temp>70)
                printf("new total locks =%d not in the range 1..70 so old ",temp);
        Else
                tlocks=temp;
        }
        printf("total locks = %d\n",tlocks);
        if(c2)
                printf("value of stocks not in the range 1..80 ");
        else {
                temp=tstocks+stocks;
                if(temp>80)
                printf("new total stocks =%d not in the range 1..80 so old ",temp); else
                tstocks=temp;
        }
         printf("total stocks=%d\n",tstocks);
        if(c3) printf("value of barrels not in the range 1..90 ");
```

```
 else {
        temp=tbarrels+barrels;
 if(temp>90) printf("new total barrels =%d not in the range 1..90 so old ",temp);
else tbarrels=temp;
} printf("total barrel=%d",tbarrels);
 printf("\nenter the number of locks and to exit the loop enter -1 for locks\n");
 scanf("%d",&locks);
 } printf("\ntotal locks = %d\ntotal stocks =%d\ntotal barrels
=%d\n",tlocks,tstocks,tbarrels);
sales = lprice*tlocks+sprice*tstocks+bprice*tbarrels;
printf("\nthe total sales=%f\n",sales); if(tlocks>0&&tstocks>0&&tbarrels>0) {
 if(sales > 1800.0) {
comm=0.10*1000.0;
 comm=comm+0.15*800;
 comm=comm+0.20*(sales-1800.0);
} else if(sales > 1000) {
 comm =0.10*1000; comm=comm+0.15*(sales-1000);
 } else comm=0.10*sales;
 printf("the commission is=%f\n",comm);
 } else printf(" Commission cannot be calculated \n");
return 0;
}
```

Testing:

Project Name:	Lab 08
Test Case ID:	TC-EC-01
Test Title:	Commission Problem
Test Priority:	Low
Module Name:	Commission function
Designed By:	Mahnoor Qazi
Designed Date:	28-07-21
Executed By:	Mahnoor Qazi
Executed Date:	28-07-21
Description of Test:	Testing for equivalence of commission problem

Test Cases:

ID	Description	Input data			Expected output		Actual output		Status
-	-	Total Lock	Total Stock	Total Barrel	Sale	Commission	Sale	Commission	-
TC-EC-01	Enter the value within the range for lock, stocks and barrels	35	40	45	3900	64	3900	64	Pass
TC-EC-02 -	Enter the value for lock, stocks and barrels where 0 < Sales < 1000	5	5	5	500	50	500	50	Pass
TC-EC-03 -	Enter the value for lock, stocks and barrels where 1000 < Sales < 1800	15	15	15	1500	175	1500	175	Pass
TC-EC-04 -	Enter the value for lock, stocks and barrels where Sales > 1800	25	25	25	2500	360	2500	360	Pass
TC-EC-05 -	Enter the value locks = -1	-1	0	0	Input loop should be terminated		Input loop is terminated		Pass

TC-EC-06 -	Enter the value less than -1 or equal to zero for locks and other valid inputs	0	40	45	Value of Locks not in the range 1 to 70	Value of Locks not in the range 1 to 70	Pass
TC-EC-07	Enter the value greater than 70 for locks and other valid inputs	71	40	45	Value of Locks not in the range 1 to 70	Value of Locks not in the range 1 to 70	Pass
TC-EC-08	Enter the value less than or equal than 0 for stocks and other valid inputs	35	0	45	Value of stocks not in the range 1 to 80	Value of stocks not in the range 1 to 80	Pass
TC-EC-09	Enter the value greater than 80 for stocks and other valid inputs	35	81	45	Value of stocks not in the range 1 to 80	Value of stocks not in the range 1 to 80	Pass
TC-EC-10	Enter the value less than or equal 0 for barrels and other valid inputs	35	40	0	Value of Barrels not in the range 1 to 90	Value of Barrels not in the range 1 to 90	Pass
TC-EC-11	Enter the value greater than 90 for barrels and other valid inputs	35	40	91	Value of Barrels not in the range 1 to 90	Value of Barrels not in the range 1 to 90	Pass

LAB # 09

EXERCISE: **Design, develop, code and run the program in any suitable language to implement the NextDate function. Analyze it using any method of testing, derive different test cases, execute these test cases and discuss the test result.**

Code:

```
function nextDate(year, month, day) {
  var leapYear;
  var daysInMonth;
  var finalDate;

  if (
        y < 0 ||
        y > 32768 ||
        m < 1 ||
        m > 12 ||
        d < 1 ||
        d > 31 ||
        (m == 2 && d > 29)
  ) {
        console.log("Something is out of range!");
  } else {
        //CHECK FOR LEAP YEAR
        if (y % 400 == 0) {
        leapYear = true;
        } else if (y % 100 == 0) {
          leapYear = false;
        } else if (y % 4 == 0) {
        leapYear = true;
        } else {
        leapYear = false;
        }

        //GETTING NUMBER OF DAYS IN MONTH
        if (
        (m == 2 && leapYear == true && d > 29) ||
        (m == 2 && leapYear == false && d > 28)
        ) {
        console.log("Incorrect Date!");
        } else {
        if (
        m == 1 ||
        m == 3 ||
        m == 5 ||
```

```
        m == 8 ||
        m == 10 ||
        m == 12
        ) {
        daysInMonth = 31;
        } else if (m == 2) {
        if (leapYear == true) {
        daysInMonth = 29;
        } else {
        daysInMonth = 28;
        }
        } else {
        daysInMonth = 30;
        }

        //ADDING A DAY IN THE DATE

        if (d < daysInMonth) {
        d += 1;
        } else {
        d = 1;
        if (m == 12) {
        m = 1;
        y += 1;
        } else {
        m += 1;
        }
        }

        finalDate = y + "-" + m + "-" + d;

        console.log("The next date is (YYYY-MM-DD) : ", finalDate);
        }
  }
}
```

OUTPUT:

```
nextDate(2020, 2, 28); //OUTPUT => The next date is (YYYY-MM-DD) :  2020-2-29
nextDate(2020, 2, 29); //OUTPUT => The next date is (YYYY-MM-DD) :  2020-3-1
nextDate(2021, 2, 28); //OUTPUT => The next date is (YYYY-MM-DD) :  2020-3-1
nextDate(2021, 2, 29); //OUTPUT => Invalid date
```

INPUTS:

Y (integer)
M (integer)
D (integer)

Project Name:	Lab 09
Case ID:	TC-ND-01
Title:	Testing NextDate function of lab 09
Priority:	Low
Module Name:	NextDate function
Designed By:	Mahnoor Qazi
Designed Date:	28-07-21
Executed By:	Mahnoor Qazi
Executed Date:	28-07-21
Description of Test:	Date contains three integers, month, day and year.

Case ID	Description	Input Data			Expected Output			Actual output			Status	Comments
		M	D	Y	M	D	Y	M	D	Y		
Tc-nd-01	Enter month and year but 0 day.	1	0	2000	Error: enter valid date.			Error: Enter valid date.			Pass	Nil
Tc-nd-02	Enter day and year but 0 month.	0	2	2000	Error: enter valid date.			Error: enter valid date.			Pass	Nil
Tc-nd-03	Enter day and month but 0 year.	1	2	0	Error: enter valid date.			Error: enter valid date.			Pass	Nil
Tc-nd-04	Enter a valid date.	3	5	2012	3	6	2012	3	6	2012	Pass	Nil
Tc-nd-05	Enter last day of year and see if the year is incremented.	12	31	2012	1	1	2013	12	31	2013	Pass	Nil
Tc-nd-06	Enter a leap year and check the incremented date.	2	28	2008	2	29	2008	2	28	2008	Pass	Nil
Tc-nd-07	Enter 28th feb 2011, and check the result.	2	28	2011	3	1	2011	3	1	2011	Pass	Nil
Tc-nd-08	Enter 31st sep and check the output.	9	31	2014	Invalid date			10	1	2014	Fail	Nil
Tc-nd-09	Enter a non-integer date	1.5	20	2012	Invalid date			Invalid date			Pass	Should be an integer

LAB 10 : Explore Katalon GUI

Task 1: State the difference between Test case andTest Suite:

Test Case	Test Suite
It is designed to examine if an application is working as desired or not. It contains test inputs, execution conditions and expected outputs for executing a particular case.	It is a collection of test cases related to the same test work, grouped together for test execution purposes. Test Suites can actually have the same or widely different Test Cases.
One execution of a program that may detect errors and bugs	A set of execution of programs grouped together.
In Katalon Studio, a Test Case can be created from two views: ● Manual View (for users with little programming knowledge) ● Script View (for users with strong programming knowledge)	In Katalon Studio, a Test Suite can be created in two ways: ● Click on **File<New<Test Suite**. Type the name of the test suite and its description (optional). Click on OK. ● In a test case, click on "Add To Test Suite" to add that case to a test suite, then choose an already created test suite or create a new one by giving its name.

Task 2: Why you preferred Katalon over any other Automation tool available on the market? state in your words. Also, justify your answer with a suitable example.

As beginners, we prefer to use Katalon because it is a simple and easy automation testing tool. It provides a user-friendly interface which makes it easy to learn and understand. It offers a wide range of features and does not necessarily require strong programming knowledge.

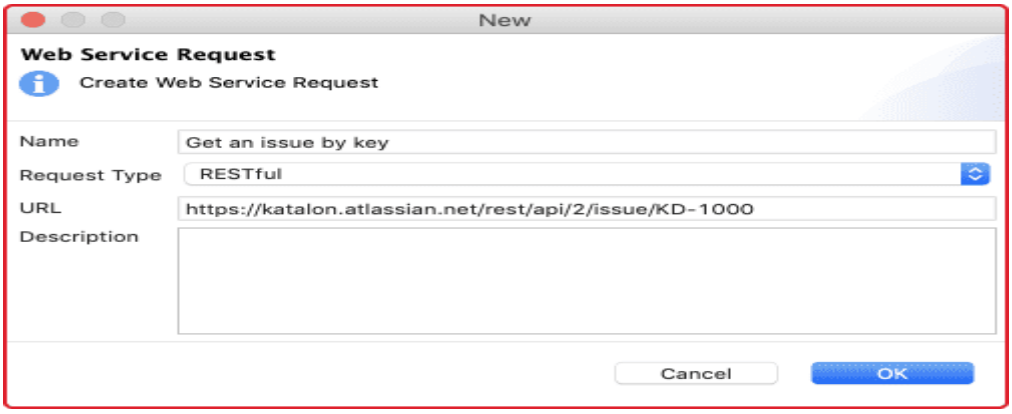
Advantages to Katalon over other Automation tools:

1. Katalon provides us with dual scripting mode for users having different programming capabilities. Manual mode for beginners having less programming knowledge and script mode for users having more technical knowledge. Whereas Selenium is more suitable for technical users as it's difficult to use.
2. Katalon provides easy deployment and a wide set of integration as compared to Selenium.
3. It provides built-in Api testing features which allows end-to-end API testing, automate scripting, and maintain their tests. While selenium requires additional integration.
4. In Selenium and Appium, users have to define their own actions to perform a test whereas Katalon Studio offers many predefined keywords and users can also create custom keywords for their project.

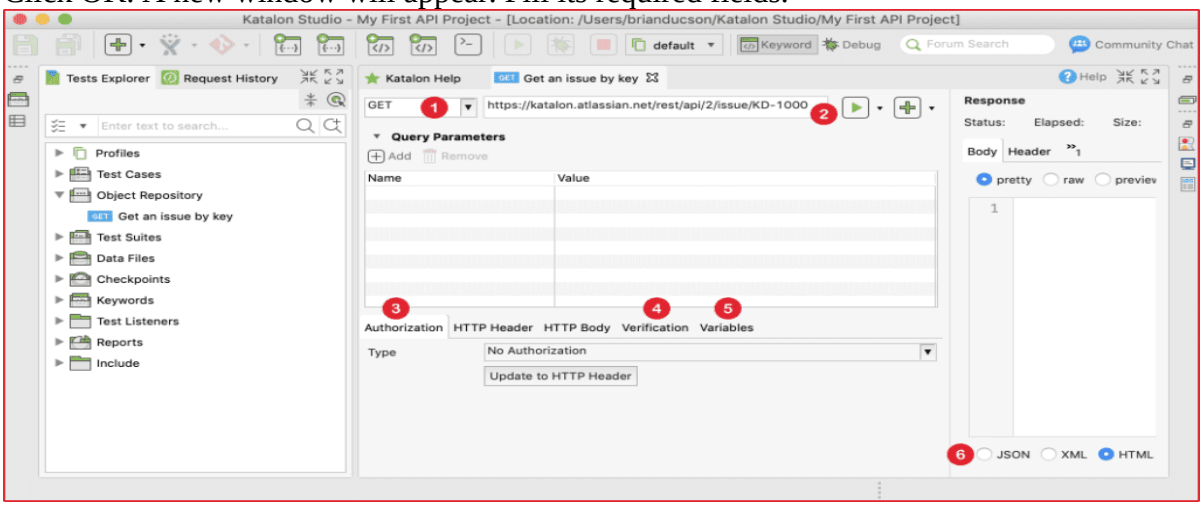
5. Katalon Studio has no licensing or maintenance fee, offers free upgrades, and is cross-platform as compared to Test Complete and UFT.
6. Katalon has the ability to automate non web-based apps, and multiple formats for reports are available — which Selenium lacks.

Example: API testing using Katalon

1. Create A project in katalon studio.
2. Create the first API test
3. Create a new RESTful endpoint at Object Repository -> New -> Web Service Request



4. Fill the window above.
5. Click OK. A new window will appear. Fill its required fields.



6. Create a new test case with an existing request
7. Add an existing request to a test case
8. Add the test case to the test suite and then execute.

Only these steps are required for testing an API which is quite simple. The request at Object Repository makes the process real quick and easy. In order to save time and effort learning Proper API testing is mandatory.

Task 3: State the different views of Katalon GUI.

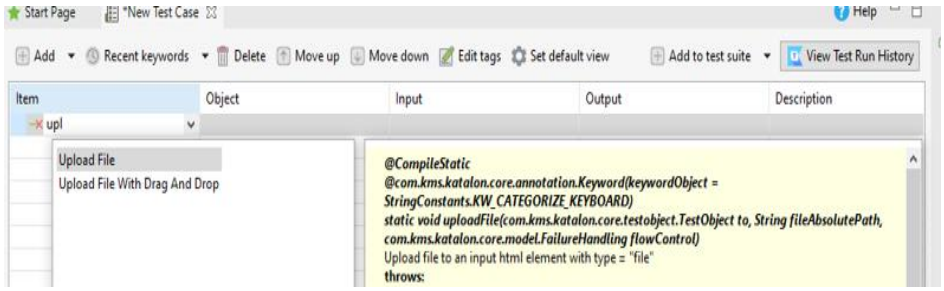
1. **Test Explorer View:** Allows you to quickly browse the structure of the project and access all resources quickly.
2. **Keywords Browser View:** Displays all the keywords supported by Katalon Studio and allows you to drag and drop them to the Test Case editor while scripting.
3. **Global Variable View:** Allows you to browse the list of available global variables defined in your project.
4. **Job Progress View:** To view the progress of executing test cases and test suites.
5. **Problems View:** Displays errors and warning messages when the project is being set up or when the test case, test suite, test object, or test data is designed.
6. **Console View:** Shows the system logs of all run-time activities performed while the automation test is being executed. Also displays the console output generated from test scripts.
7. **Log Viewer View:** Shows the real-time report/log of the test execution.
8. Search View: Shows the search results from the search function. You can double-click on a search entry to go to the corresponding position in the editor.
9. **Report View:** Allows you to view detailed information of completed test execution for a certain test suite.
10. **Test Suite Collection Report View:** The Test Suite Collection Report view allows you to view detailed information of completed test execution for a certain test suite Collection.

Task 4: How many types of files can you attach to Katalon? Which feature of Katalon allows you to attach a file in the Katalon test suite?

Katalon allows you to upload files in any available format be it .jpg, .png, .txt, .pdf, etc.
To attach a file to test suite katalon allows two methods:

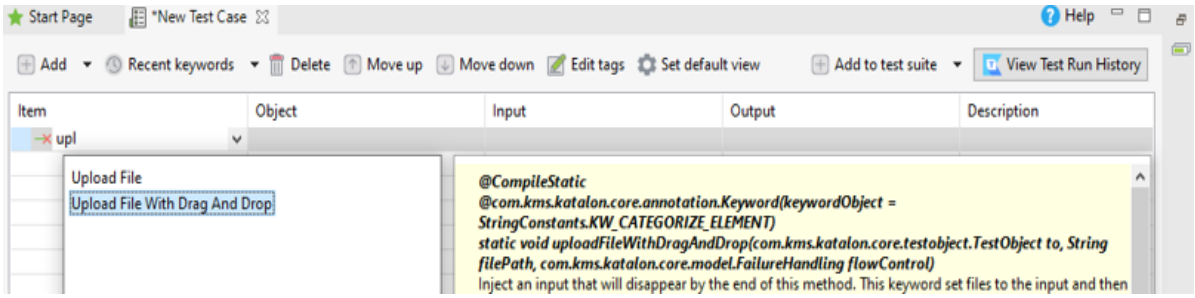
1. **[WebUI] Upload File:**

It has three parameters. (to, fileAbsolutePath) are required while (flowcontrol) is optional.
In WebUI keywords, select uploadFile.
Next, add the TestObject to which the file has to be uploaded.
Now, add the absolute path of the file in the Input field



2. [WebUI] Upload File by Drag-and-Drop:

It allows you to upload files to a website by drag and drop. It also has the above-mentioned parameters.
In WebUI keywords, select uploadFileWithDragAndDrop.
Next, add the drop zone as the TestObject, if unspecified the website's body is taken as the object.
Now, add the absolute path of the file in the Input field.



Task 5: What is the purpose of Object Spy and Object Repository? Explain with a suitable example:

Object Spy:

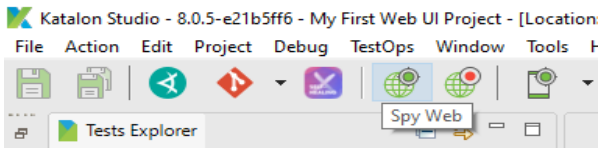
Object Spy is used to capture the objects present on a web browser or a mobile application. It also lets you specify object properties and locating methods. There are two types of Object Spy; Spy Web (for web browsers and web apps) and Spy Mobile (for mobile apps).

Object Repository:

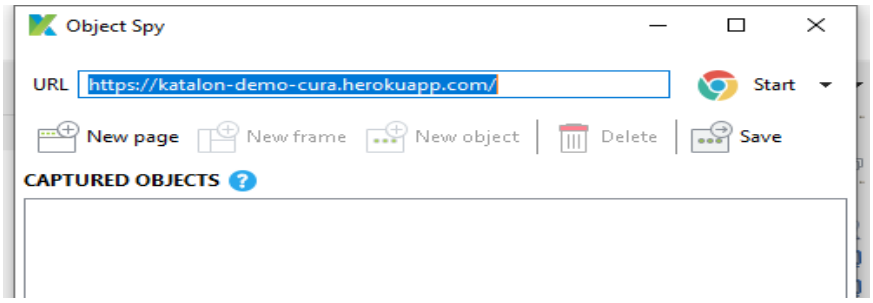
Object Repository is a collection of all the objects in a project with their respective folders. Once an object is captured, it is added to the Object Repository in an existing folder or in a new folder. While designing a test case, we can select the required objects from the Object Repository.

EXAMPLE: This example shows the difference between Object Spy & Object Repository.

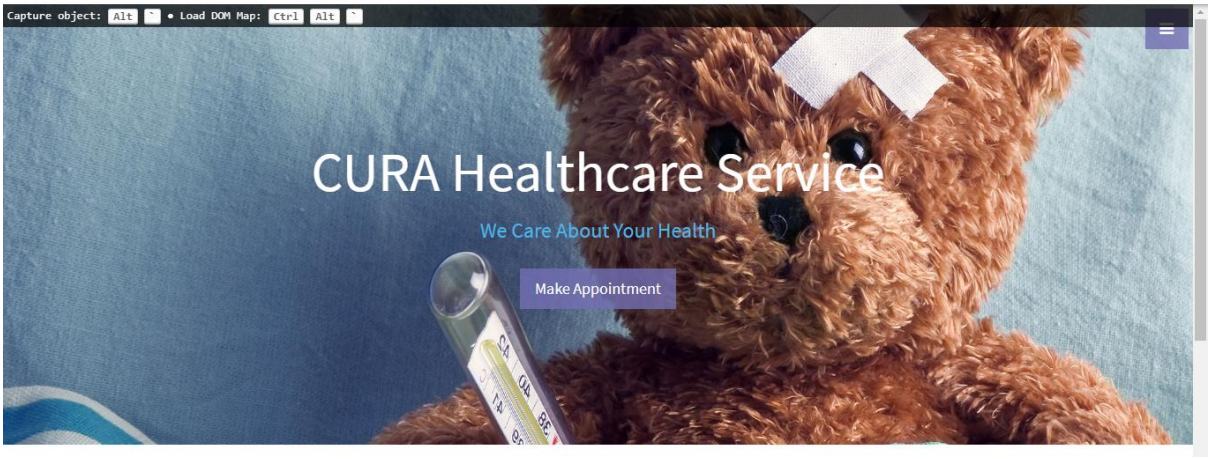
- In order to capture objects on a web browser, we will use Spy Web.
- Click on Spy Web to open the **Object Spy** dialog.



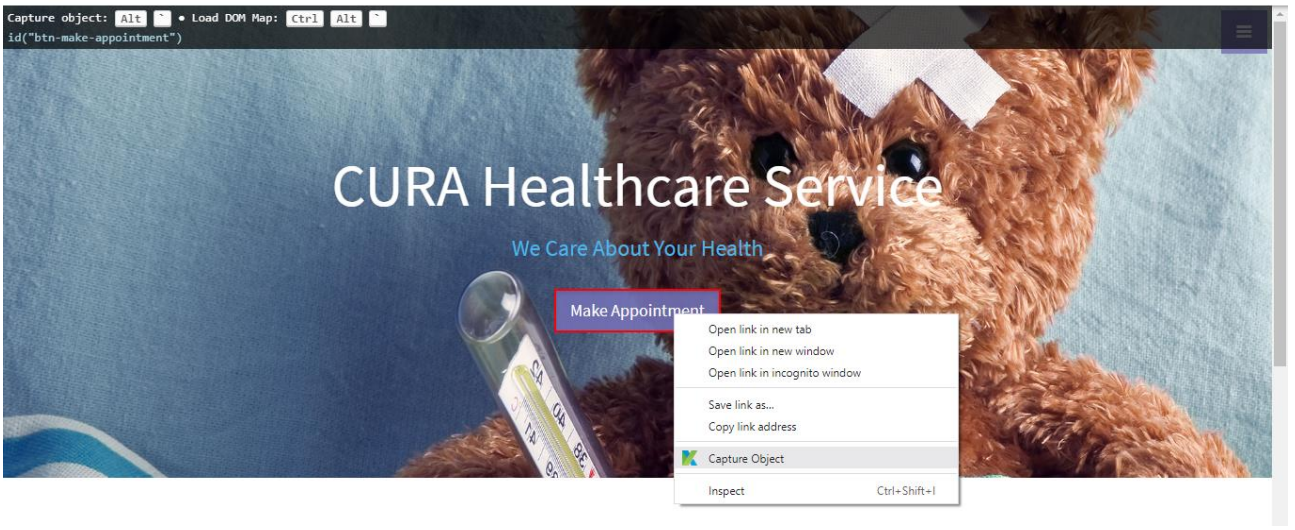
- Now enter the URL of the website to test, here I have entered the URL of Cura health. Then click on Start.



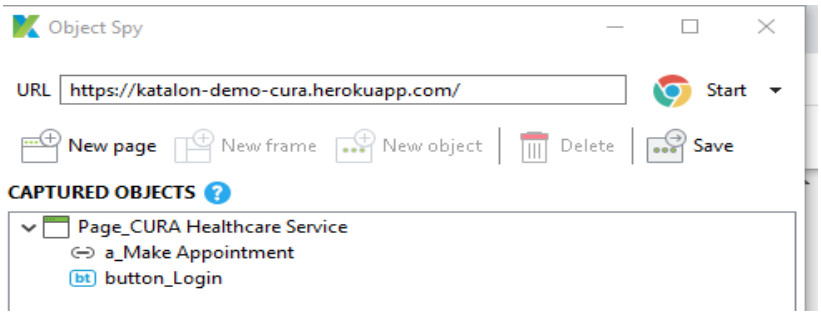
- This will open the Twitter website in a new browser.



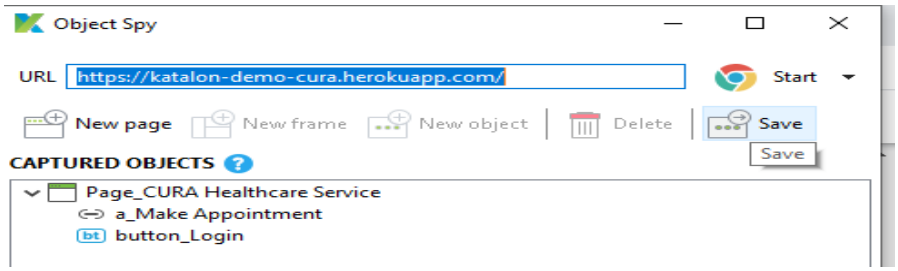
- Now, hover over the objects on the website. Each object will be highlighted in a red box. Right-click on an object, click Capture Object.



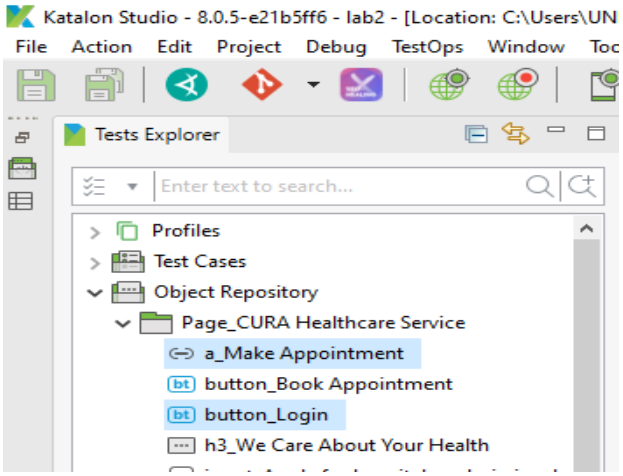
- Now, all the Captured Objects will be shown in the **Object Spy dialog.**



- Once you have captured all the desired objects, click on Save.



- Now, these objects will be added to the **Object Repository** in the specified folder. If you want to place the objects in a new folder, you can click on "New Folder" to create it.



Lab 11 A: Create Test Case : In Manual View

1. Write Testcases for login/logout features of "Orangehrm " website . Use username= Admin, Password=admin123 ; /*attach Test report and screenshot Here*/
/*Hint: use WebSpy to capture object and save it to object repository*/

a. Login:

Item	Object	Input
1 - Open Browser		""
2 - Navigate To Url		"https://opensource-demo.orangehrmlive.com/"
3 - Set Text	input_LOGIN Panel_txtUsername	""
4 - Set Text	input_Username_txtPassword	""
5 - Click	input_Password_Submit	
6 - Set Text	input_LOGIN Panel_txtUsername	"adm"
7 - Set Text	input_Username_txtPassword	"admin123"
8 - Click	input_Password_Submit	
9 - Set Text	input_LOGIN Panel_txtUsername	"Admin"
10 - Set Text	input_Username_txtPassword	"admin123"
11 - Click	input_Password_Submit	

b. Logout:

Item	Object	Input
1 - Click	a_Welcome Manoj	
2 - Click	a_Logout	

TEST REPORT:

Test Suite1

Execution Environment

Host name	NAJUM - NAJUM
OS	Windows 8.1 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/Test Suite1		
Description			
Total	2		
Passed	2	Failed	0
Error	0	Incomplete	0
Start	2021-07-27 21:28:40	End	2021-07-27 21:29:17
Elapsed	37.617s		

#	ID	Description	Status
1	Test Cases/login		PASSED
2	Test Cases/logout		PASSED

2. Write Testcases (Using Manual tab) for My Info feature of "Orangehrm " website .Edit Nickname and save; Use at least One new keyword /*attach Test report and screenshot Here*/

a. Login:

Item	Object	Input
1 - Open Browser		""
2 - Navigate To Url		"https://opensource-demo.orangehr
3 - Set Text	input_LOGIN Panel_txtUsername	"Admin"
4 - Set Text	input_Username_txtPassword	"admin123"
5 - Click	input_Password_Submit	

b. Nickname:

Item	Object	Input
1 - Click	b_My Info	
2 - Click	input__btnSave	
3 - Set Text	input_Nick Name_personaltxtEmpNickName	""
4 - Click	input__btnSave	
5 - Click	input__btnSave	
6 - Set Text	input_Nick Name_personaltxtEmpNickName	"nickname"
7 - Click	input__btnSave	

c. Radio Button:

Item	Object	Input
1 - Click	input__btnSave	
2 - Click	input_Gender_personaloptGender	
3 - Click	input__btnSave	
4 - Click	input__btnSave	
5 - Click	input_Male_personaloptGender	
6 - Click	input__btnSave	

d. Checkbox:

Item	Object	Input
1 - Click	input__btnSave	
2 - Check	input_Smoker_personalchkSmokeFlag	
3 - Click	input__btnSave	

TEST REPORT:

Test Suite2

Execution Environment

Host name	NAJUM - NAJUM
OS	Windows 8.1 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/Test Suite2		
Description			
Total	4		
Passed	4	Failed	0
Error	0	Incomplete	0
Start	2021-07-27 21:31:48	End	2021-07-27 21:32:48
Elapsed	1m - 0.551s		

#	ID	Description	Status
1	Test Cases/loginTestcase		PASSED
2	Test Cases/Nickname		PASSED
3	Test Cases/RadioButton		PASSED
4	Test Cases/checkbox		PASSED

Lab 11 B: Create Test Case: Script View

1. Write TestCases for login/logout features of "Cura Healthcare "website through script. Also verify text" we care about your health "with true or false text values.;/* attach Test report and script here*/ /*Hint: use SpyWeb to capture objects */

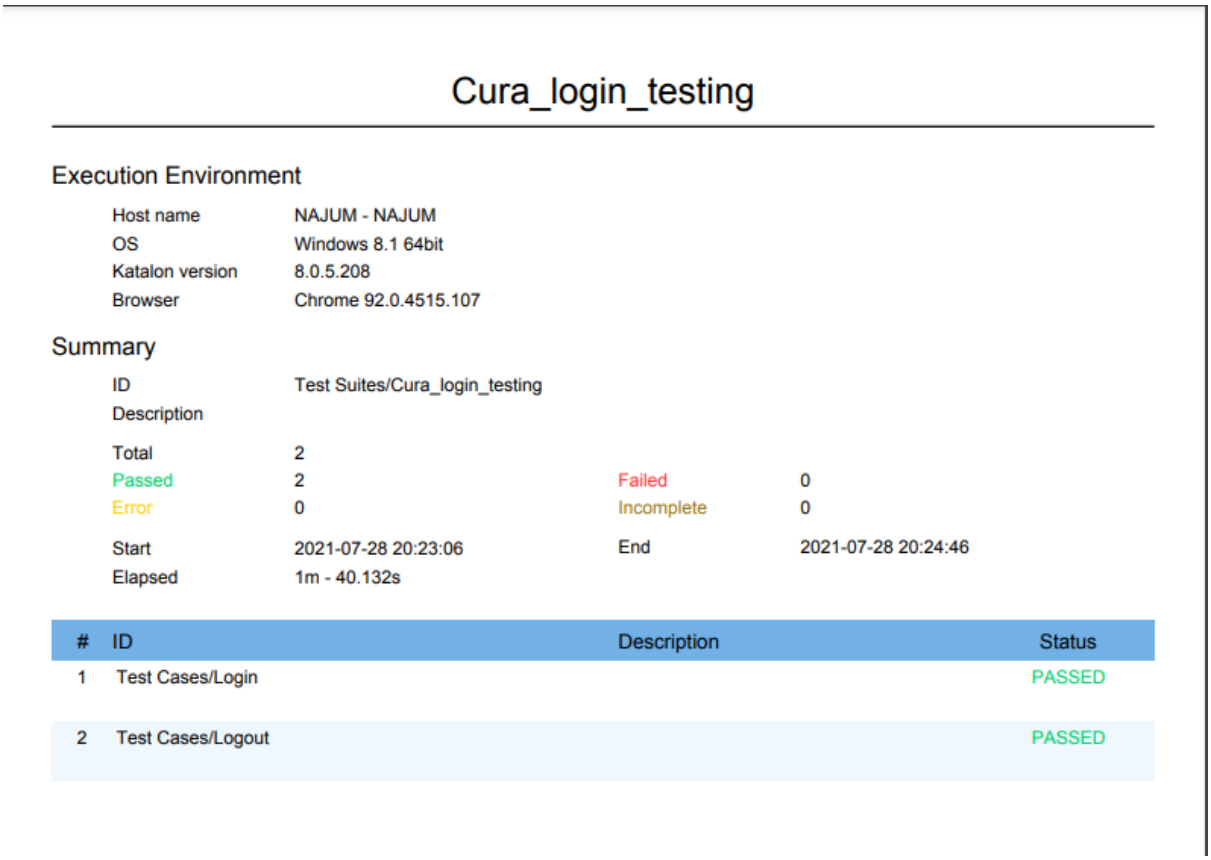
a. Login:

```
import static com.kms.katalon.core.checkpoint.CheckpointFactory.findCheckpoint

WebUI.openBrowser('')

WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com')

WebUI.click(findTestObject('Page_CURA Healthcare Service/i_CURA Healthcare_fa fa-bars'))

WebUI.click(findTestObject('Page_CURA Healthcare Service/a_Login'))

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Username_username'), '')

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Password_password'), '')

WebUI.click(findTestObject('Page_CURA Healthcare Service/button_Login'))

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Username_username'), '')

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Password_password'), 'ThisIsNotAPassword')

WebUI.click(findTestObject('Page_CURA Healthcare Service/button_Login'))

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Username_username'), 'John Doe')

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Password_password'), 'Thisispassword')

WebUI.click(findTestObject('Page_CURA Healthcare Service/button_Login'))

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Username_username'), 'John Doe')

WebUI.setText(findTestObject('Page_CURA Healthcare Service/input_Password_password'), 'ThisIsNotAPassword')

WebUI.click(findTestObject('Page_CURA Healthcare Service/button_Login'))
```

b. Logout:

```
import static com.kms.katalon.core.checkpoint.CheckpointFactory.findCheckpoint

WebUI.click(findTestObject('Page_CURA Healthcare Service/a_CURA Healthcare_menu-toggle'))

WebUI.click(findTestObject('Page_CURA Healthcare Service/a_Logout'))

WebUI.closeBrowser()
```

TEST REPORT:



Cura_login_testing

Execution Environment

Host name	NAJUM - NAJUM
OS	Windows 8.1 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/Cura_login_testing		
Description			
Total	2		
Passed	2	Failed	0
Error	0	Incomplete	0
Start	2021-07-28 20:23:06	End	2021-07-28 20:24:46
Elapsed	1m - 40.132s		

#	ID	Description	Status
1	Test Cases/Login		PASSED
2	Test Cases/Logout		PASSED

c. Verify Text:

```
1  import static com.kms.katalon.core.checkpoint.CheckpointFactory.findCheckpoint
19
20 WebUI.openBrowser('')
21
22 WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com')
23
24 WebUI.verifyElementText(findTestObject('Page_CURA Healthcare Service/h3_We Care About Your Health'), 'We Care About Your Health')
25
26 WebUI.verifyElementText(findTestObject('Page_CURA Healthcare Service/h3_We Care About Your Health'), 'We Care About Your healths')
27
28 WebUI.acceptAlert()
29
30 WebUI.closeBrowser()
31
32
```

TEST REPORT:

Cura_verify_text

Execution Environment

Host name	NAJUM - NAJUM
OS	Windows 8.1 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/Cura_verify_text		
Description			
Total	1		
Passed	0	Failed	1
Error	0	Incomplete	0
Start	2021-07-28 21:13:27	End	2021-07-28 21:14:09
Elapsed	41.577s		

#	ID	Description	Status
1	Test Cases/Verify_Text_TC		FAILED

Lab 12: Execution profile & Exception Handling in Katalon

EXERCISE:

Test Cura healthcare website to make an appointment using record web feature and :

a. Declare some groovy variable inside “Login Test” and execute.

Script:

book appointment

```
WebUI.openBrowser('')

def username1 = 'John Doe'

def password1 = 'ThisIsNotAPassword'

WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')

WebUI.verifyElementText(findTestObject('Object Repository/Page_CURA Healthcare Service/h3_We Care About Your Health'), 'We Car

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'), username1)

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Password_password'), password1)

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Login'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/label_Apply for hospital readmission'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Visit Date (Required)_visit_date'))

WebUI.click(findTestObject('Page_CURA Healthcare Service/td_28'))

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/textarea_Comment_comment'), 'Appointment')

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Book Appointment'))

WebUI.closeBrowser()
```

b. Declare a test case variable inside “Login Test” and execute.

Script:

```
import static com.kms.katalon.core.checkpoint.CheckpointFactory.findCheckpoint

WebUI.openBrowser('')

WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')

WebUI.verifyElementText(findTestObject('Object Repository/Page_CURA Healthcare Service/h3_We Care About Your Health'), 'We Care Ab

WebUI.rightClick(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Demo account_form-control'))

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'), username)

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Demo account_form-control_1'))

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Password_password'), password)

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Login'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Apply for hospital readmission_hospit_63901f'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/label_Medicare'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/span_Visit Date (Required)_glyphicon glyphi_cada34'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/td_20'))
```

```
39
40 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Apply for hospital readmission_hospit_63901f'))
41
42 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/label_Medicare'))
43
44 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/span_Visit Date (Required)_glyphicon glyphi_cada34'))
45
46 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/td_20'))
47
48 WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/textarea_Comment_comment'), 'hello')
49
50 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Book Appointment'))
51
52 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Go to Homepage'))
53
54 WebUI.closeBrowser()
55
```

c. Declare a global variable in QA profile and test "Login feature ".

Test Cases:

Add | Recent keywords | Delete | Move up | Move down | Edit tags | Set default view | Add to test suite

Item	Object	Input	Output	Descr
1 - Open Browser		""		
2 - Navigate To Url		"https://katalon-demo-cura.herokua		
3 - Click	a_Make Appointment			
4 - Set Text	input_Username_username	GlobalVariable.QA_id		
5 - Set Text	input_Password_password	GlobalVariable.QA_pwd		
6 - Click	button_Login			

Script:

```
20 WebUI.openBrowser('')
21
22 WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')
23
24 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))
25
26 WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'), GlobalVariable.QA_id)
27
28 WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Password_password'), GlobalVariable.QA_pwd)
29
30 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Login'))
31
```

d. Test Cura healthcare to book an appointment ,An exception should be thrown when the length of username is less or equal to 8.

Script:

```
22 WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')
23
24 try {
25     WebUI.verifyElementText(findTestObject('Object Repository/Page_CURA Healthcare Service/h3_We Care About Your Health'),
26         'Health')
27 }
28 catch (Exception e) {
29     println(e)
30 }
31
32 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))
33
34 WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'), GlobalVariable.UID)
35
36 try {
37     def data = WebUI.getText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'))
38
39     if (data.length()<= 8) {
40         println('should be greater than 8')
41     }
42 }
43 catch (Exception e) {
44     println(e)
45 }
46
47 WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Password_password'), GlobalVariable.Pwd)
48
49 WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Login'))
50
```

e. Verify the date (selected) is not the previous date ,if so an exception will print on console.
Hint: Use conditional control statements/Method call statements if required
/*Attach all printout here including test cases, scripts, test summary reports */

Script:

```
WebUI.openBrowser('')

WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/a_Make Appointment'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Demo account_form-control'))

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/div_Demo account_input-group'))

WebUI.setText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Username_username'), 'John Doe')

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/div_Demo account_input-group_1'))

WebUI.setEncryptedText(findTestObject('Object Repository/Page_CURA Healthcare Service/input_Password_password'), 'g3/DOGG74jC3Flrr

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Login'))

WebUI.setText(findTestObject
    ('Object Repository/Page_CURA Healthcare Service/input_Visit Date (Required)_visit_date'), '26/06/2021')

if(WebUI.getText(findTestObject
    ('Object Repository/Page_CURA Healthcare Service/input_Visit Date (Required)_visit_date'))<='26/06/2021'){
    println("Date should not be previous")
}

WebUI.click(findTestObject('Object Repository/Page_CURA Healthcare Service/button_Book Appointment'))
```

Test Summary Report:

Lab 12

Execution Environment

Host name	My PC - DESKTOP
OS	Windows 10 64bit
Katalon version	8.0.5.208
Browser	Chrome 91.0.4215.127

Summary

ID	Test Suites/Lab 12		
Description			
Total	5		
Passed	5	Failed	0
Error	0	Incomplete	0
Start	2021-07-29 10:22:23	End	2021-07-29 10:24:03
Elapsed	1m - 40.600s		

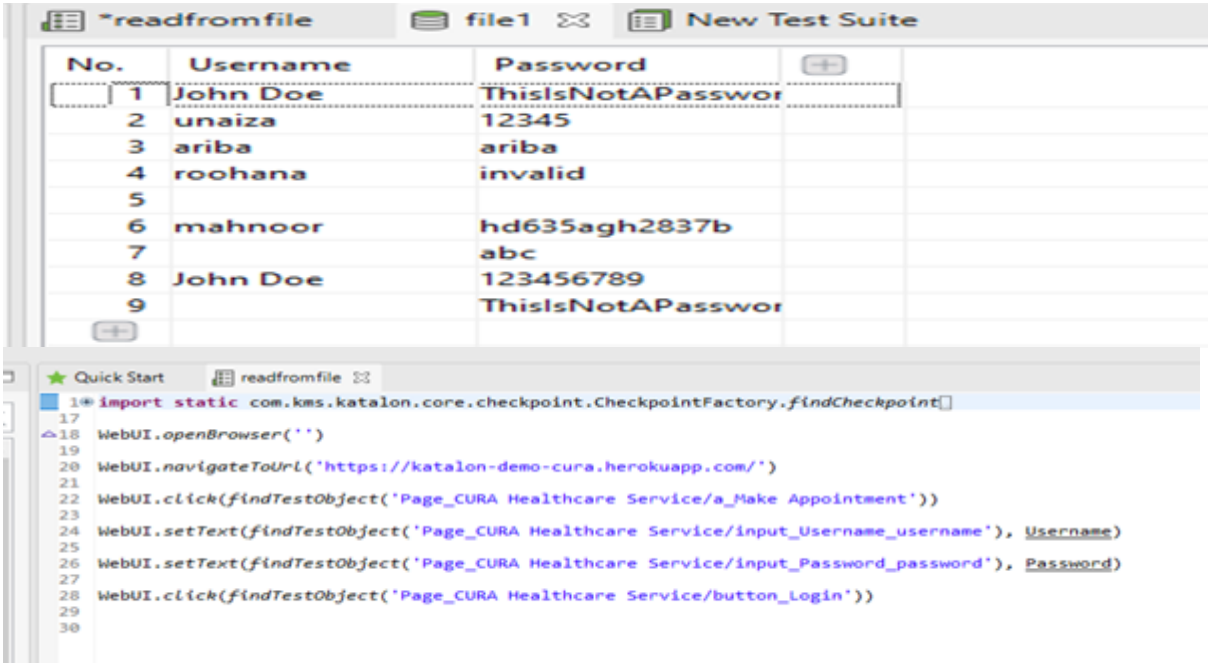
#	ID	Description	Status
1	Test Cases/book appointment		PASSED
2	Test Cases/testcase1		PASSED
3	Test Cases/globalVariable		PASSED
4	Test Cases/exceptionHandling		PASSED

LAB 13: Data Driven Testing

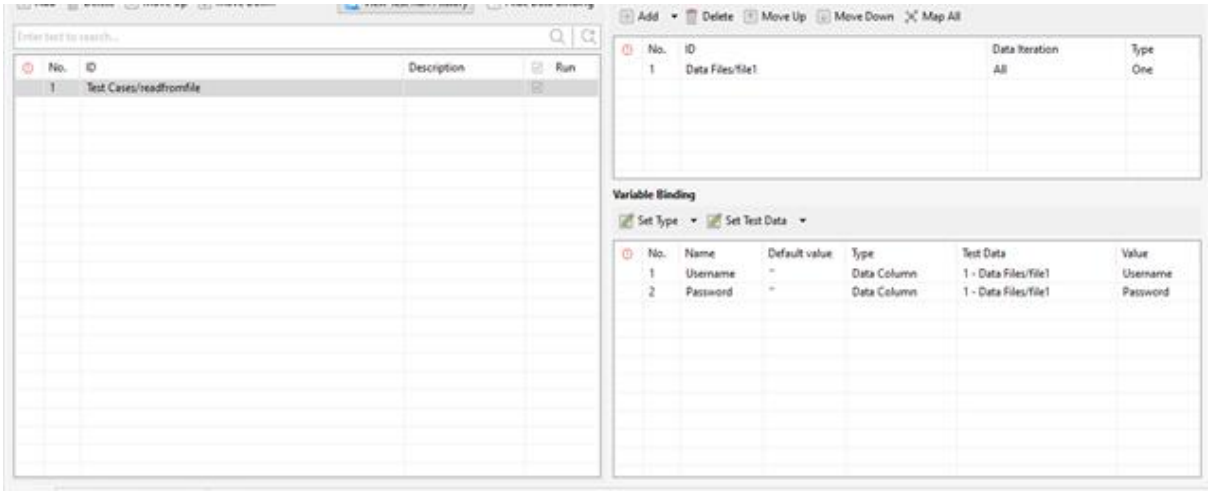
EXERCISE:

a. Create an internal data file (having Username and password) ,Test CURA HealthCare Website on all possible combinations of userid & password. Generate and attach Test report/*Attach all screenshot/printout here*/ Also Attach Test suit performance summary through TestOp feature.

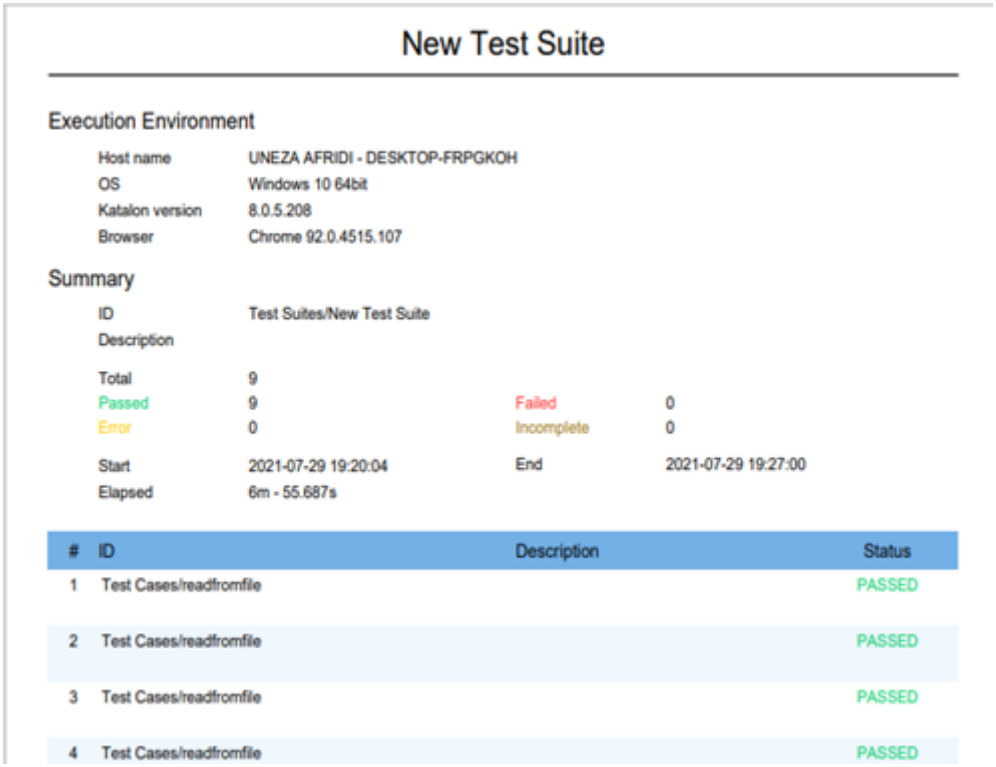
AN INTERNAL DATA FILE WITH USERNAME AND PASSWORD:



TEST SUITE WITH DATA BINDING:



TEST SUMMARY REPORT:



New Test Suite

Execution Environment

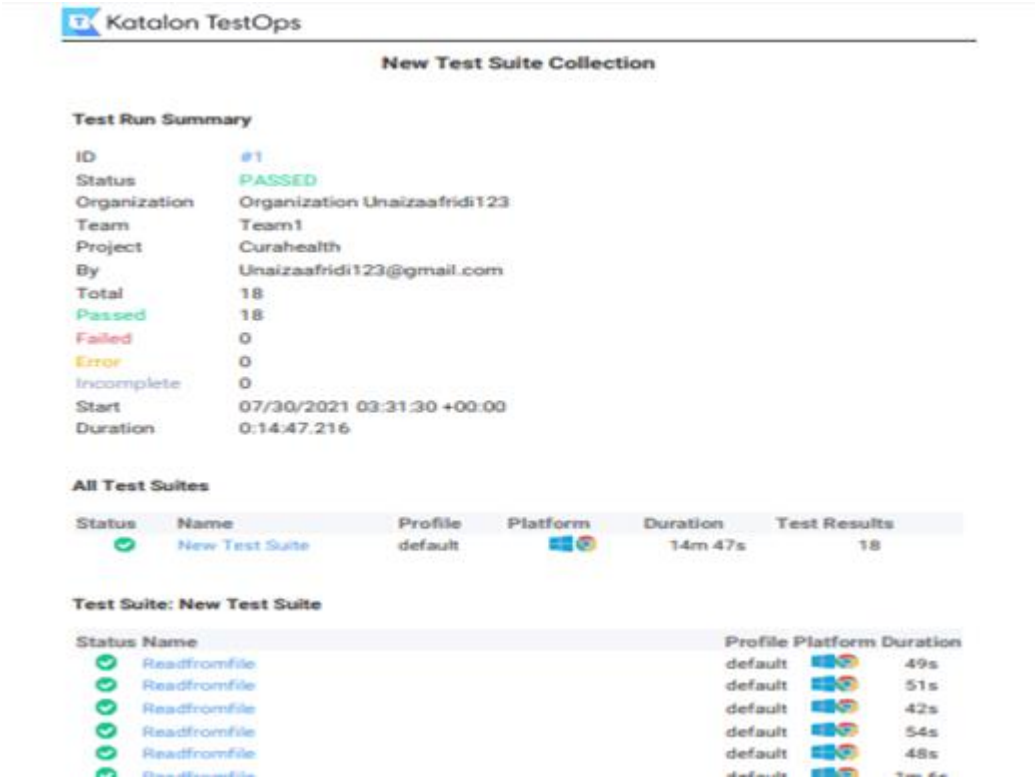
Host name	UNEZA AFRIDI - DESKTOP-FRPGKOH
OS	Windows 10 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/New Test Suite		
Description			
Total	9		
Passed	9	Failed	0
Error	0	Incomplete	0
Start	2021-07-29 19:20:04	End	2021-07-29 19:27:00
Elapsed	6m - 55.687s		

#	ID	Description	Status
1	Test Cases/readfromfile		PASSED
2	Test Cases/readfromfile		PASSED
3	Test Cases/readfromfile		PASSED
4	Test Cases/readfromfile		PASSED

Report Katalon Testops:



Katalon TestOps

New Test Suite Collection

Test Run Summary

ID	#1
Status	PASSED
Organization	Organization Unaizaafridi123
Team	Team1
Project	Curahealth
By	Unaizaafridi123@gmail.com
Total	18
Passed	18
Failed	0
Error	0
Incomplete	0
Start	07/30/2021 03:31:30 +00:00
Duration	0:14:47.216

All Test Suites

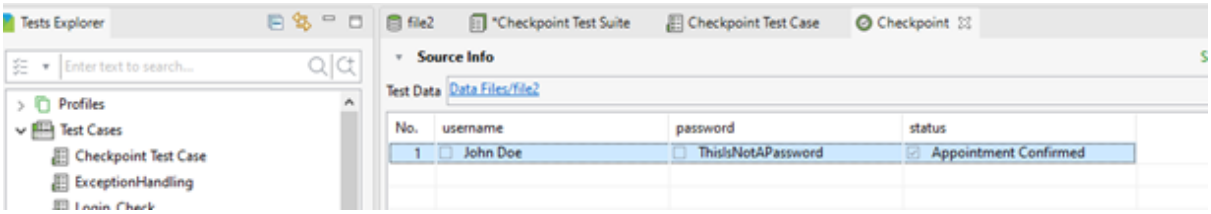
Status	Name	Profile	Platform	Duration	Test Results
	New Test Suite	default		14m 47s	18

Test Suite: New Test Suite

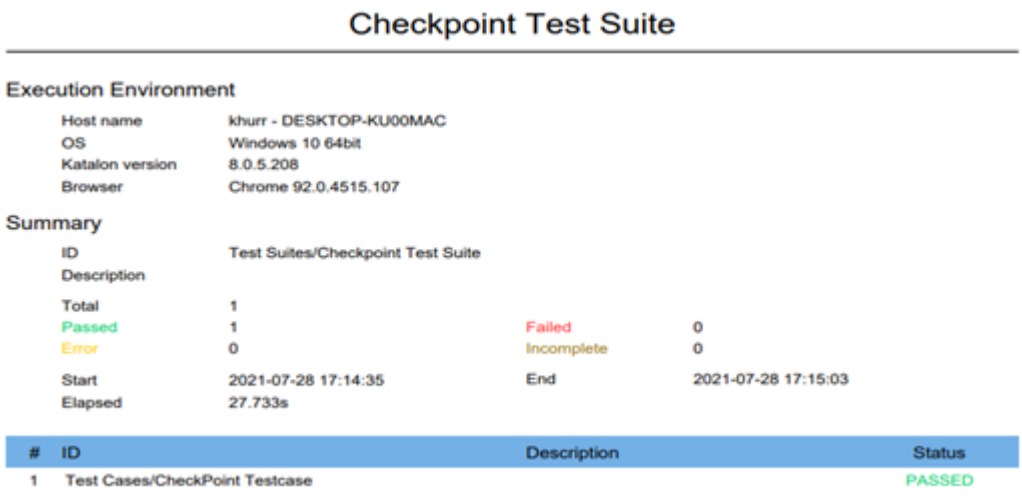
Status	Name	Profile	Platform	Duration
	Readfromfile	default		49s
	Readfromfile	default		51s
	Readfromfile	default		42s
	Readfromfile	default		54s
	Readfromfile	default		48s

b. Add checkpoint in the internal data file [refer part a here](add one more column named"status") and execute test case to validate on the basis of "status" whether appointment is confirmed or cancel /*Attach All screenshot/printout here*/ Hint : rightclick to Checkpoint à New

CHECKPOINT:



REPORT:



Checkpoint Test Suite

Execution Environment

Host name	khurr - DESKTOP-KU00MAC
OS	Windows 10 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/Checkpoint Test Suite		
Description			
Total	1		
Passed	1	Failed	0
Error	0	Incomplete	0
Start	2021-07-28 17:14:35	End	2021-07-28 17:15:03
Elapsed	27.733s		

#	ID	Description	Status
1	Test Cases/CheckPoint Testcase		PASSED

c. Attach an excel sheet ”Testdata”(having Username and password, all possible combinations), Create and execute testcases for Orangehrm ;generate and attach Testreport/*Attach All screenshot/printout here*/

EXCEL FILE:

	A	B	C	D
1	Username	Password		
2				
3	Admin	admin123		
4	admin	admin123		
5		admin123		
6	Admin			
7	xyz	xyz		
8	123	admin123		
9	Adm	admin123		
10				

TEST CASE FOR READING EXCEL FILE:

loginexcel

```
import static com.kms.katalon.core.checkpoint.CheckpointFactory.findCheckpoint

WebUI.openBrowser('')

WebUI.navigateToUrl('https://katalon-demo-cura.herokuapp.com/')

WebUI.setText(findTestObject('Page_OrangeHRM/input_LOGIN Panel_txtUsername'), Username)

WebUI.setText(findTestObject('Page_OrangeHRM/input_Username_txtPassword'), Password)

WebUI.click(findTestObject('Page_OrangeHRM/input_Password_Submit'))
```

IMPORT EXCEL FILE IN PROJECT:

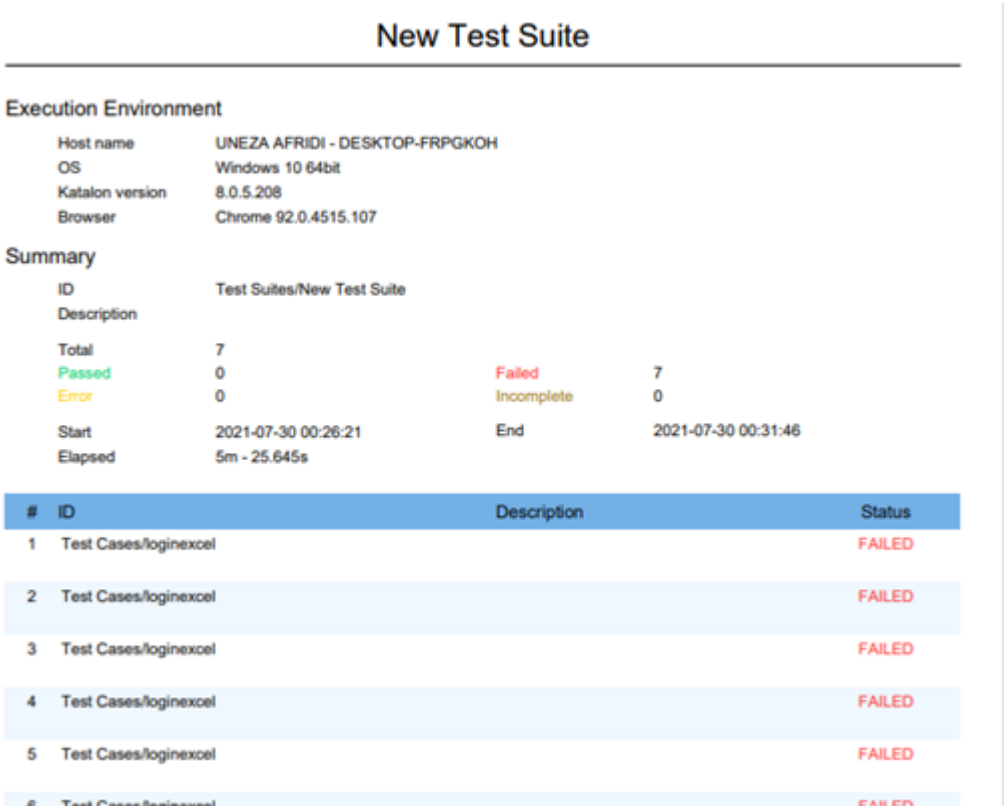
File's Information

File Name: C:\Users\UNEZA AFRIDI\Desktop\assignments\excellab13a.xlsx — Browse...

☑ Use first row as header ☐ Use relative path ☑ Bind to test case as string

No.	Username	Password
1	Admin	admin123
2	admin	admin123
3		admin123
4	Admin	
5	xyz	xyz
6	123	admin123
7	Adm	admin123

REPORT:



New Test Suite

Execution Environment

Host name	UNEZA AFRIDI - DESKTOP-FRPGKOH
OS	Windows 10 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

Summary

ID	Test Suites/New Test Suite		
Description			
Total	7		
Passed	0	Failed	7
Error	0	Incomplete	0
Start	2021-07-30 00:26:21	End	2021-07-30 00:31:46
Elapsed	5m - 25.645s		

#	ID	Description	Status
1	Test Cases/loginexcel		FAILED
2	Test Cases/loginexcel		FAILED
3	Test Cases/loginexcel		FAILED
4	Test Cases/loginexcel		FAILED
5	Test Cases/loginexcel		FAILED

d. Create another column in (above) excel sheet named “Status” through test case write “passed” or “fail” in status column during Execution. /* use conditional control statements and exception handling if required*/ Attach All printout here

EDITING EXCEL FILE DURING EXECUTION:

```
public class WriteExcel {
    @Keyword
    public void demoWriteExcel (String strTest) throws IOException
    {
        FileInputStream file = new FileInputStream ('G:\\SEMESTER 6\\SQE lab\\Testdata.xlsx');
        XSSFWorkbook workbook = new XSSFWorkbook(file);
        XSSFSheet sheet = workbook.getSheet('Sheet1');
        int x = GlobalVariable.i
        println('strTest: '+ strTest)
        println('x: '+x)
        XSSFRow row = sheet.getRow(x)
        int colNum = row.getLastCellNum()
        XSSFCell cell = null
        if (cell==null)
            cell = row.createCell(colNum)
        cell.setCellValue(strTest)
        FileOutputStream outFile =new FileOutputStream('G:\\SEMESTER 6\\SQE lab\\Testdata.xlsx');
        workbook.write(outFile);
        outFile.close()
        GlobalVariable.i=x+1
        println("GlobalVariable.i: " + GlobalVariable.i)
            }

        }
```

EXCEL FILE AFTER EXECUTION:

	A	B	C	D
1	Username	Password	Status	
2	Admin	admin123	failled	
3	admin	admin123	failled	
4		admin123	failled	
5	Admin		failled	
6	xyz	xyz	failled	
7	123	admin123	failled	
8	Adm	admin123	failled	
9				

REPORT:

New Test Suite

Execution Environment

Host name	UNEZA AFRIDI - DESKTOP-FRPGKOH
OS	Windows 10 64bit
Katalon version	8.0.5.208
Browser	Chrome 92.0.4515.107

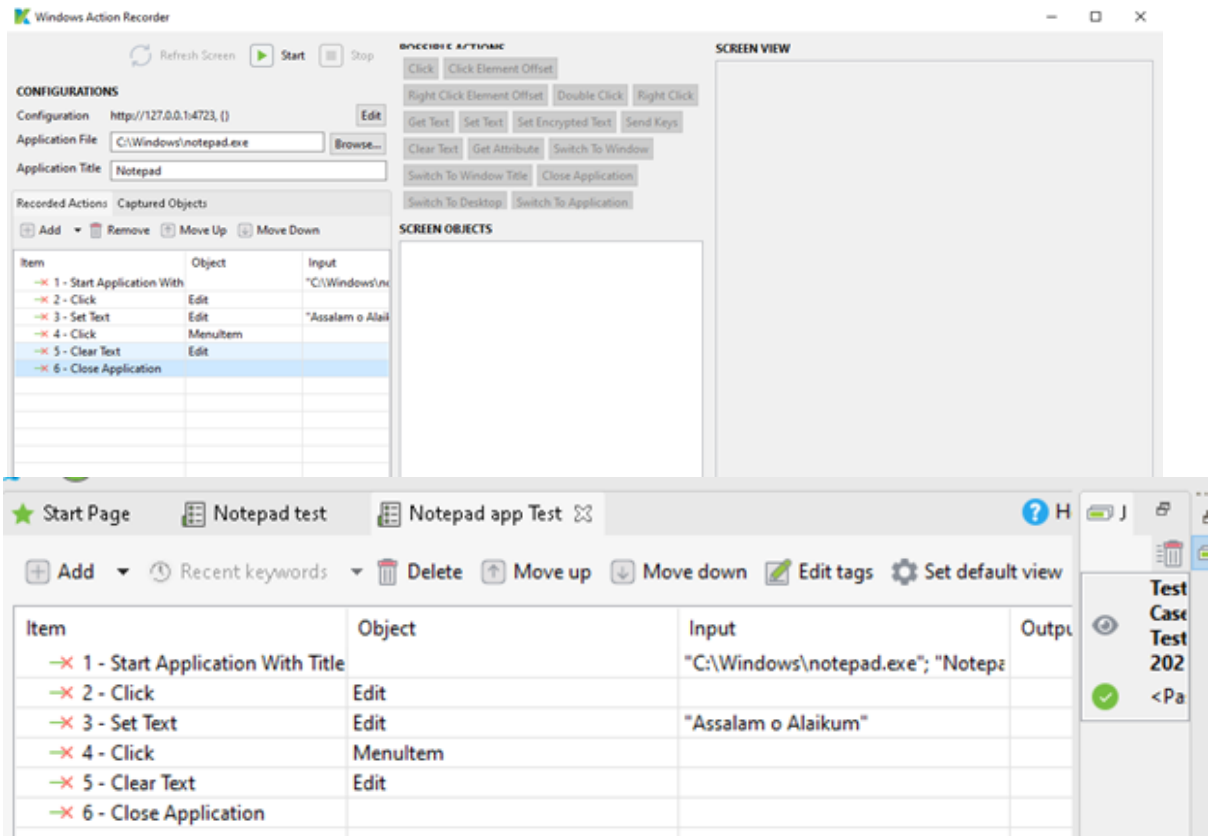
Summary

ID	Test Suites/New Test Suite		
Description			
Total	7		
Passed	0	Failed	7
Error	0	Incomplete	0
Start	2021-07-30 00:26:21	End	2021-07-30 00:31:46
Elapsed	5m - 25.645s		

#	ID	Description	Status
1	Test Cases/loginexcel		FAILED
2	Test Cases/loginexcel		FAILED
3	Test Cases/loginexcel		FAILED
4	Test Cases/loginexcel		FAILED
5	Test Cases/loginexcel		FAILED
6	Test Cases/loginexcel		FAILED
7	Test Cases/loginexcel		FAILED

LAB # 14: Desktop App Testing

EXERCISE: Test Notepad Application through katalon studio , Attach all screenshot and test summary here.



Test Summary Report:

Test Execution Log