

Lab Session 01

Use various verification & validation techniques in agile software design and development

Exercises

Q1 a:

Test Case Id: TS_01a										Test Designed by:Iqra Irfan/ Misha Akram Baig																													
Test Priority (Low/Medium/High) : Low										Designed date: 16-march-2021																													
Module Name: 8 Function calculator										Test Executed by: Iqra																													
Test Title: Verify valid functional inputs for calculator										Test Execution Date : 16-march-2021																													
Description : implementation of 8 function calculator																																							
Pre- Condition: Integer Input																																							
Dependencies: N/A																																							
Step	Test Steps									Test Date	Expected Result									Actual Results									Status (pass/Fail)										
1	input option within the range									16-Mar-21	respected operation is selected									Error									pass										
2	input option not in the range									16-Mar-21	Re-enter option									Exits loop									fail										
3	user enter character instead of number									16-Mar-21	show invalid input									show invalid input									pass										
4	number and character entered as operands									16-Mar-21	type error exception raised									Please enter correct Data type									pass										
5	number divided by zero									16-Mar-21	zero division error exception raised									zreo division error									pass										
6	mod operation is selected									16-Mar-21	mod operation performed									mod operation performs									pass										
Post Condition:result showed be displayed																																							

Q1 b:

Test Case Id: TS_01b			Test Designed by:Iqra Irfan/ Misha Akram Baig		
Test Priority (Low/Medium/High) : Medium			Designed date: 16-march-2021		
Module Name: Number List Sorting			Test Executed by: Misha		
Test Title: Verify valid inputs for sorting List			Test Execution Date : 16-march-2021		
Description : Sorting integers in descending order					
Pre- Condition: Integer Input					
Dependencies: N/A					
Step	Test Steps	Test Date	Expected Result	Actual Results	Status (pass/Fail)
1	value of Numbers cant be character	16-Mar-21	Print Invalid Error	Error	pass
2	Array must be in the range of 10	16-Mar-21	Gives error	Displays error message	fail
3	Number cant be negative or < 1	16-Mar-21	Print "Invalid Input"	gives Invalid error as output	pass
4	Numbers cant be of float data type	16-Mar-21	Message dispalyed of Enter Int data ty	Please enter correct Data type	pass
Post Condition: Array must be sorted in descending order					

Q2:

Test Case Id: TS_02			Test Designed by: Iqra Irfan/ Misha Akram Baig		
Test Priority (Low/Medium/High) : Medium			Designed date: 16-march-2021		
Module Name: Multiplication of matrices			Test Executed by: Iqra		
Test Title: Verify valid inputs			Test Execution Date : 17-march-2021		
Description : Multiplication of 3x3 matrices					
Pre- Condition: no. of C1= no. of R2					
Dependencies: N/A					
Step	Test Steps	Test Date	Expected Result	Actual Results	Status (pass/Fail)
1	user enter null values as input	17-Mar-21	Error expected	Error	pass
2	user enter character instead of integer	17-Mar-21	Error expected	Error	pass
3	user input C1=3 and R2=2	17-Mar-21	Error expected	Error	pass
4	user input proper inputs	17-Mar-21	resultant matrix expected	return resultant matrix	pass
Post Condition: result generated in form of nested list					

Q3 a:

Test Case Id: TS_03a				Test Designed by:Iqra Irfan/ Misha Akram Baig			
Test Priority (Low/Medium/High) : High				Designed date: 15-march-2021			
Module Name: Temperature controlled Switch				Test Executed by: Misha Akram			
Test Title: Verify valid switching using Temperature readings				Test Execution Date : 16-march-2021			
Description :Implementing Temperature sensitive switch							
Pre- Condition: Previous value of temperature							
Dependencies: Temperature sensor							
Step	Test Steps	Test Date	Expected Result	Actual Results	Status (pass/Fail)		
1	Check switch state when temperature is 18	16-Mar-21	switch is off	switch is off	pass		
2	Check switch state when temperature is 22	16-Mar-21	switch is on	switch is on	pass		
3	Check switch state when temperature is 20 when	16-Mar-21	switch is on	switch is on	pass		
4	Check switch state when temperature is 20 when	16-Mar-21	Switch is off	Switch is off	pass		
Post Condition: switch status updated							

```
def switch():  
    temp = False  
  
    while True:  
        temperature = int(input("enter stock number"))  
        if temperature < 18:  
            print("switch off")  
            temp = False  
        elif temperature > 21:  
            print("Switch on")  
            temp = True  
        else:  
            if temp == True:  
                print("Switch on 18-21")  
            else:  
                print("Switch off 18-21")  
  
switch()
```

Q3 b:

```
def stock():  
    while True:  
        num = int(input("enter stock number"))  
        if num in range(100000, 9999999):  
            print("number in stock range")  
        else:  
            print("out of range")
```

Test Case Id: TS_03b				Test Designed by:Iqra Irfan/ Misha Akram Baig					
Test Priority (Low/Medium/High) : High				Designed date: 15-march-2021					
Module Name: Stock control System				Test Executed by: Misha Akram					
Test Title: Verify and validate outbound values				Test Execution Date : 16-march-2021					
Description :Implementing Stock control system									
Pre- Condition: Stock should not be empty									
Dependencies: N/A									
Step	Test Steps		Test Date	Expected Result		Actual Results		Status (pass/Fail)	
1	Check order at 10,000		16-Mar-21	value is present		value is present		pass	
2	Check order at 99999		16-Mar-21	value is present		value is present		pass	
3	Check order at 50000		16-Mar-21	value is present		value is present		pass	
Post Condition: print output									

Q4:

Test Case Id: TS_04				Test Designed by:Iqra Irfan/ Misha Akram Baig			
Test Priority (Low/Medium/High) : High				Designed date: 15-march-2021			
Module Name: Linked List				Test Executed by: Iqra			
Test Title: Verify and validate the implementation of Linked Lists				Test Execution Date : 16-march-2021			
Description : Implementation of linked list class							
Pre- Condition: create objects and link them accordingly							
Dependencies: N/A							
Step	Test Steps	Test Date	Expected Result	Actual Results	Status (pass/Fail)		
1	enter empty list in buildlinkList	16-Mar-21	assertion raised	assertion raised	pass		
2	input list	16-Mar-21	link list returned	link list returned	pass		
3	enter invalid head in insertafter function	16-Mar-21	no insertion should be done	Assertion invalid node pointer raised	pass		
4	traverse from null pointer	16-Mar-21	exception should be raised	Error generated	fail		
5	delete null pointer	16-Mar-21	assertion should be raised	assertion raised	pass		
6	search target value	16-Mar-21	value should be returned	value is returned	pass		
7	delete pointer	16-Mar-21	deleted value should be return	value is returned	pass		
Post Condition: for delete head pointer shifted & if addition is done at head head pointer should be reset							