School of Computing

Bachelor of Science in Computing.

Programme Code: DT211/3

2012 – 2016

Network Programming

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Class Group	DT211/3
Assignment Number	1
Assignment Title	Testing
Date Issued	17/1/2015
Date Due For Return	13/2/2015
Date Returned	13/1/2015

Error Handling:

In my program, error handling is a key feature, as it allows for the correct outcome and no system errors such as out of bounds array exception and so on. I used error handling such as that if the user enters in more than three colon's in a input then they receive an error saying that it is invalid, or they enter in one colon after another. I also used a try and catch exception so that if the user input's a character or a string it displays that you cannot insert string into the input, and exits the program. I have designed test cases for each of my error handling methods which I have implemented into my program.

Test Case Narrative

Testing for String/ character inputs

Test Case Name: Test the use of character input
Intent: User should receive an error stating incorrect input
Precondition: Entering in character or string value
Example: 23:dbfu:12
Dialog: Step 1: User enters in time into command line. Step 2 : User hits the enter button
Expected Results: The output to the screen should print out the time in text.
Test Case termination: Hitting enter after entered in time

Testing for the correct amount of colons in the input

Test Case Name: Test the length of the time input using colons
Intent: User should receive an error stating incorrect input for txt clock
Precondition: Entering invalid colons
Example: 11::12:15 or 12:12:10:13
Dialog: Step 1: User enters in time into command line. Step 2 : System accepts values
Expected Results: The output to the screen should print out the time in text.
Test Case termination: Hitting enter after entered in time

Testing for missing numbers

Test Case Name: Test the numbers entered
Intent: User should get a valid time
Precondition: Entering in one number per colon
Example: 1:1:1

Dialog: Step 1: User enters in time into command line. Step 2 : System accepts values
Expected Results: one minute and one second past one
Test Case termination: Hitting enter after entered in time

Testing for invalid string length

Test Case Name: Test the length of the string entered
Intent: User should receive an error
Precondition: Hitting the enter button
Example: 12:32
Dialog: Step 1: The user enters in the time into the command line Step 2 : System accepts values
Expected Results: The user should receive an error message
Test Case termination: Hitting enter after entered in time

Testing for minus values

Test Case Name: Test minus values entered
Intent: User should receive an error
Precondition: Hitting the enter button
Example: -12:32:12
Dialog: Step 1: The user enters in the time into the command line Step 2 : System accepts values
Expected Results: The user should receive an error message
Test Case termination: Hitting enter after entered in time

Testing for NTP server

Test Case Name: Test the NTP server
Intent: User should receive time via NTP server
Precondition: Hitting the enter button
Dialog: Step 1: The user enters an empty string into the command line Step 2 : System accepts values
Expected Results: The output to the screen should print out the time in text from the NTP server
Test Case termination: Hitting enter after entered in time

Testing for local system time

Test Case Name: Test the local system time
Intent: User should receive time via their local system
Precondition: Hitting the enter button
Dialog: Step 1: The user enters an empty string into the command line Step 2 : System accepts values
Expected Results: The output to the screen should print out the time in text from the local system time
Test Case termination: Hitting enter after entered in time