PART B

**Assignment 2 – Sockets**

**By: William Collins & Nicolas Castilloux**

**040652633 & 040600517**

**For: Mitchell White**

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**PDL Additions**

START PARSE

FILL temporary storage with words of the message

COPY First word into buffer sent in

RETURN rest of the words to another buffer sent in

END PARSE

**Test Plan**

**Client**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Case | Test | Input | Purpose | Expected result | Result |
| 1 | Invalid IP | ./client 192.43.333.4 | Testing to see if entered IP is valid | Invalid IP entered, program will exit | match |
| 2 | Too many arguments | ./client 192.168.1.102 extra | Too many arguments | Program will not run as it has too many arguments | match |
| 3 | Not enough arguments | ./client | No arguments so the program does not run | Program will display usage | match |
| 4 | Valid IP, but no connection | ./client 192.168.1.102 | The IP is a valid one but will fail for multiple reasons(no internet connection, firewall issues etc) | Program will quit after a certain amount of time trying to connect | match |
| 5 | Logging out | Logout | Testing to see if the program exits when written | Program will quit | match |

**Server**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Case | Test | Input | Purpose | Expected result | Result |
| 6 | Logging in with a valid username | Login curtis | Testing login functionality | Welcome message will be displayed | match |
| 7 | Logging in with an invalid username | Login bobdole | Testing login functionality | Error message and ask for re-input | match |
| 8 | If user is logged in and tries to login again | Login Curtis  Login curtis | Cant log in to another user if already logged in | There is a flag set to 1 when someone logs in. Error message will be displayed. | match |
| 9 | Sending a message to a valid user | Send jim Test message haha | Testing the send function | Message will be stored in the message queue and will be waiting for nick to login and get the message. | match |
| 10 | Sending a message to an invalid user | Send bobdole test message | Testing the send function | Message will not be sent as the user is not a valid one. | match |
| 11 | Logging out | Logout | Testing logout functionality | Program will log the user out | match |
| 12 | Receiving messages based on your user type | Receive | Receiving messages that have been left for you | Messages for the user I am logged in will be displayed | match |
| 13 | Deleting messages on the queue that are for you | Delete | Deleting messages left for you | Messages will be deleted from the queue | match |
| 14 | Having more than 5 clients |  | Program will not accept more than 5 clients | Program will display an error message if trying to connect with more than 5 clients | Does not match |
| 15 | Receive messages if user has none | Receive | Test to see what happens with the server if no messages are found | Program will display nothing | match |

**Testing Output**

This output shows the interaction between clients, sending and receiving message between each other.

**Client 1 Log**

Willy-> ./client 10.50.15.122

6 user>login curtis

You have succesfully logged on!

5 user>logout

curtis logged off.

user>login princess

You have succesfully logged on!

8 user>login jim

You are already logged in!

11 user>logout jim

princess logged off.

user>login jim

You have succesfully logged on!

9 user>send curtis whoa buddy, i miss how we used to be

Message successfuly sent!

user>receieve

That is not a valid command!

12 user>receive

hey I really like your database class

I was wondering what my grade was

user>send curtis it was 27%

Message successfuly sent!

user>receive

hey I really like your database class

I was wondering what my grade was

user>receive

hey I really like your database class

I was wondering what my grade was

13 user>delete

Messages succesfully deleted!

15 user>receive

user>logout

jim logged off.

user>login princess

You have succesfully logged on!

user>logout

princess logged off.

user>blajlk

You must log in first!

7 user>login blah

Cannot log you in!

user>login princess

You have succesfully logged on!

user>klasdfj

That is not a valid command!

user>send blah blah blah

Message could not be sent!

10 user>send nonexistentperson hey man

Message could not be sent!

user>logout

princess logged off.

User>logout

You must log in first!

user>exit

Toodles!!

1 Willy-> ./client boobies

ERROR: Cannot resolve host name

2 Willy-> ./client boobies jfkalsdjflk

USAGE: ./client IP(0.0.0.0)

3 Willy-> ./client

USAGE: ./client IP(0.0.0.0)

4 Willy-> ./client 10.10.1.1

ERROR: Cannot resolve host name

**Client 2 Log**

user>login curtis

You have succesfully logged on!

user>send jim hey I really like your database class

Message successfuly sent!

user>send jim I was wondering what my grade was

Message successfuly sent!

user>receive

whoa buddy, i miss how we used to be

It was 27%

user>receive

whoa buddy, i miss how we used to be

It was 27%

user>delete

Messages succesfully deleted!

user>receive

user>logout

curtis logged off.

user>login curtis

You have succesfully logged on!

user>exit

Toodles!!