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Thank you for your submission.

Test executed by user: alcarasj

Resubmit test

Testing base protocol.

BEGINNING SOCKET TEST: 2017/11/21 10:55:05pm

Connecting to host: 79.97.243.184 port: 25565

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Sent HELO Message to Server:

HELO BASE_TEST

Recieved Message from server:

HELO BASE_TEST

IP:0.0.0.0

Port:25565

StudentID:14317110

Message has 5 lines (we expect at least 4).

First String Correct:HELO BASE_TEST

Second string is correct form IP:XXXX.

Second string does not include server ip address:79.97.243.184

IP string is:

0.0.0.0

Creating first client connection

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1
First string is correct form JOINED_CHATROOM:XXXX.
Chatroom name is correct: room1
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 1
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT:1
Room Ref is correct: 1
Clientname is correct: client1
Message form is correct: client1 has joined this chatroom. Full message received:

client1 has joined this chatroom.

Server join message received successfully.

Testing Leaving

Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

LEAVE_CHATROOM: 1
JOIN_ID: 1
CLIENT_NAME: client1

Send succeeded.

Received Message from server:

LEFT_CHATROOM:1

Room Ref is correct: 1
JOIN ID is correct: 1

Leave Test Successful.

Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Received Message from server:

CHAT:1

Room Ref is correct: 1
Client name has correct form: client1
Full message received:

client1 has left this chatroom.

Receipt of message successful.

Test join multiple rooms

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.
Received Message from server: JOINED_CHATROOM:room1
First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 1
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
Clientname is correct: client1
Message form is correct: client1 has joined this chatroom. Full message recieved:

client1 has joined this chatroom.

Server join message recieved successfully.

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.
Recieved Message from server: JOINED_CHATROOM:room2
First string is correct form JOINED_CHATROOM:XXXX.
Chatroom name is correct: room2
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 2
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Recieved Message from server: CHAT:2
Room Ref is correct: 2
Clientname is correct: client1
Message form is correct: client1 has joined this chatroom. Full message recieved:

client1 has joined this chatroom.

Server join message recieved successfully.

Test leaving multiple chatrooms

Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

LEAVE_CHATROOM: 1
JOIN_ID: 1
CLIENT_NAME: client1

Send succeeded.

Recieved Message from server:

LEFT_CHATROOM:1

Room Ref is correct: 1
JOIN ID is correct: 1
Leave Test Successful.

Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Received Message from server:

CHAT:1

Room Ref is correct: 1
Client name has correct form: client1
Full message received:

client1 has left this chatroom.

Receipt of message successful.

Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

LEAVE_CHATROOM: 2
JOIN_ID: 1
CLIENT_NAME: client1

Send succeeded.

Received Message from server:

LEFT_CHATROOM:2

Room Ref is correct: 2
JOIN ID is correct: 1
Leave Test Successful.

Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Received Message from server:

CHAT:2

Room Ref is correct: 2
Client name has correct form: client1
Full message received:

client1 has left this chatroom.

Receipt of message successful.

Testing multiple clients with single room

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 1

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

client1 has joined this chatroom.

Server join message received successfully.

Creating second client connection

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client2. (Socket Resource id #8)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 1

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 2

Server Join Test Success

Testing join message regarding client2. (Socket Resource id #7)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message received:

client2 has joined this chatroom.

Server join message received successfully.

Testing join message regarding client2. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message received:

client2 has joined this chatroom.

Server join message received successfully.

Test multiple clients leaving one room

Testing leaving on chatroom by client2. (Socket Resource id #8)

Sending Message to Server:

```
LEAVE_CHATROOM: 1
JOIN_ID: 2
CLIENT_NAME: client2
```

Send succeeded.

Recieved Message from server:

```
LEFT_CHATROOM:1
```

Room Ref is correct: 1

JOIN ID is correct: 2

Leave Test Successful.

Testing for receipt of leaving message regarding client2 (Socket Resource id #8)

Recieved Message from server:

```
CHAT:1
```

Room Ref is correct: 1

Client name has correct form: client2

Full message recieved:

```
client2 has left this chatroom.
```

Receipt of message successful.

Testing for receipt of leaving message regarding client2 (Socket Resource id #7)

Recieved Message from server:

```
CHAT:1
```

Room Ref is correct: 1

Client name has correct form: client2

Full message recieved:

```
client2 has left this chatroom.
```

Receipt of message successful.

Testing leaving on chatroom by client1. (Socket Resource id #7)

Sending Message to Server:

```
LEAVE_CHATROOM: 1
JOIN_ID: 1
CLIENT_NAME: client1
```

Send succeeded.

Recieved Message from server:

```
LEFT_CHATROOM:1
```

Room Ref is correct: 1

JOIN ID is correct: 1

Leave Test Successful.

Testing for receipt of leaving message regarding client1 (Socket Resource id #7)

Recieved Message from server:

```
CHAT:1
```

Room Ref is correct: 1
Client name has correct form: client1
Full message recieved:

client1 has left this chatroom.

Receipt of message successful.

Testing multiple clients with multiple rooms

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.
Recieved Message from server: JOINED_CHATROOM:room1
First string is correct form JOINED_CHATROOM:XXXX.
Chatroom name is correct: room1
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 1
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
Clientname is correct: client1
Message form is correct: client1 has joined this chatroom. Full message recieved:

client1 has joined this chatroom.

Server join message recieved successfully.

Testing joining server by client2. (Socket Resource id #8)

Send Succeeded. Testing response.
Recieved Message from server: JOINED_CHATROOM:room1
First string is correct form JOINED_CHATROOM:XXXX.
Chatroom name is correct: room1
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 1
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 2

Server Join Test Success

Testing join message regarding client2. (Socket Resource id #7)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
Clientname is correct: client2
Message form is correct: client2 has joined this chatroom. Full message recieved:

client2 has joined this chatroom.

Server join message recieved successfully.

Testing join message regarding client2. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message received:

client2 has joined this chatroom.

Server join message received successfully.

Creating third client connection

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client3. (Socket Resource id #9)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 1

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 3

Server Join Test Success

Testing join message regarding client3. (Socket Resource id #7)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message received:

client3 has joined this chatroom.

Server join message received successfully.

Testing join message regarding client3. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message received:

client3 has joined this chatroom.

Server join message received successfully.

Testing join message regarding client3. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message received:

client3 has joined this chatroom.

Server join message recieved successfully.

Testing joining server by client1. (Socket Resource id #7)

Send Succeeded. Testing response.

Recieved Message from server: JOINED_CHATROOM:room2

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 2

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 1

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #7)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message recieved:

client1 has joined this chatroom.

Server join message recieved successfully.

Testing joining server by client3. (Socket Resource id #9)

Send Succeeded. Testing response.

Recieved Message from server: JOINED_CHATROOM:room2

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 2

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 3

Server Join Test Success

Testing join message regarding client3. (Socket Resource id #7)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message recieved:

client3 has joined this chatroom.

Server join message recieved successfully.

Testing join message regarding client3. (Socket Resource id #9)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client3

Message form is correct: client3 has joined this chatroom. Full message recieved:

client3 has joined this chatroom.

Server join message recieved successfully.

Creating fourth client connection

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client4. (Socket Resource id #10)

Send Succeeded. Testing response.

Recieved Message from server: JOINED_CHATROOM:room2

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room2

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 2

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 4

Server Join Test Success

Testing join message regarding client4. (Socket Resource id #7)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message recieved:

client4 has joined this chatroom.

Server join message recieved successfully.

Testing join message regarding client4. (Socket Resource id #9)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message recieved:

client4 has joined this chatroom.

Server join message recieved successfully.

Testing join message regarding client4. (Socket Resource id #10)

Recieved Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client4

Message form is correct: client4 has joined this chatroom. Full message recieved:

client4 has joined this chatroom.

Server join message recieved successfully.

Testing Messaging

Testing the sending of a message from client1

Sending Message

```
CHAT: 1
JOIN_ID: 1
CLIENT_NAME: client1
MESSAGE: hello world from client 1
```

Send Succeeded.

Testing for receipt of message from client1. (Socket Resource id #7)

Received Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client1
Message content is correct:

```
hello world from client 1
```

Message receipt successful

Testing for receipt of message from client1. (Socket Resource id #8)

Received Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client1
Message content is correct:

```
hello world from client 1
```

Message receipt successful

Testing for receipt of message from client1. (Socket Resource id #9)

Received Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client1
Message content is correct:

```
hello world from client 1
```

Message receipt successful

Testing for no receipt of message from client1. (Socket Resource id #10)

Nothing to read on Resource id #10 socket. This is correct.

Testing the sending of a message from client2

Sending Message

```
CHAT: 1
JOIN_ID: 1
CLIENT_NAME: client2
MESSAGE: hello world from client 2
```

Send Succeeded.

Testing for receipt of message from client2. (Socket Resource id #7)

Received Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client2
Message content is correct:

```
hello world from client 2
```

Message receipt successful

Testing for receipt of message from client2. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client2

Message content is correct:

hello world from client 2

Message receipt successful

Testing for receipt of message from client2. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client2

Message content is correct:

hello world from client 2

Message receipt successful

Testing for no receipt of message from client2. (Socket Resource id #10)

Nothing to read on Resource id #10 socket. This is correct.

Testing the sending of a message from client3

Sending Message

CHAT: 1

JOIN_ID: 3

CLIENT_NAME: client3

MESSAGE: hello world from client 3

Send Succeeded.

Testing for receipt of message from client3. (Socket Resource id #7)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

hello world from client 3

Message receipt successful

Testing for receipt of message from client3. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

hello world from client 3

Message receipt successful

Testing for receipt of message from client3. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client3

Message content is correct:

hello world from client 3

Message receipt successful

Testing for no receipt of message from client3. (Socket Resource id #10)
Nothing to read on Resource id #10 socket. This is correct.

Testing the sending of a message from client3

Sending Message

CHAT: 2
JOIN_ID: 3
CLIENT_NAME: client3
MESSAGE: hello world from client 3

Send Succeeded.

Testing for receipt of message from client3. (Socket Resource id #7)

Received Message from server: CHAT:2
Room Ref is correct: 2
clientname is correct: client3
Message content is correct:

hello world from client 3

Message receipt successful

Testing for receipt of message from client3. (Socket Resource id #9)

Received Message from server: CHAT:2
Room Ref is correct: 2
clientname is correct: client3
Message content is correct:

hello world from client 3

Message receipt successful

Testing for receipt of message from client3. (Socket Resource id #10)

Received Message from server: CHAT:2
Room Ref is correct: 2
clientname is correct: client3
Message content is correct:

hello world from client 3

Message receipt successful

Testing for no receipt of message from client3. (Socket Resource id #8)
Nothing to read on Resource id #8 socket. This is correct.

Testing Disconnections

Testing sending message to server by client1. (Socket Resource id #7)

Sending Message to Server:

DISCONNECT: 0
PORT: 0
CLIENT_NAME: client1

Send Succeeded.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #8)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #7)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #9)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #10)

Received Message from server: CHAT:2

Room Ref is correct: 2
Clientname is correct: client1
Full message recieved:

client1 has left this chatroom.

Message correctly includes name of client that has left.
Message receipt successful.

Testing the sending of a message from client3

Sending Message

CHAT: 1
JOIN_ID: 3
CLIENT_NAME: client3
MESSAGE: hello world from client 3

Send Succeeded.

Testing for receipt of message from client3. (Socket Resource id #8)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client3
Message content is correct:

hello world from client 3

Message receipt successful

Testing for receipt of message from client3. (Socket Resource id #9)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
clientname is correct: client3
Message content is correct:

hello world from client 3

Message receipt successful

Testing for no receipt of message from client3. (Socket Resource id #10)

Nothing to read on Resource id #10 socket. This is correct.

Testing for no receipt of message from client3. (Socket Resource id #7)

Nothing to read on Resource id #7 socket as expected.

Testing sending message to server by client2. (Socket Resource id #8)

Sending Message to Server:

DISCONNECT: 0
PORT: 0
CLIENT_NAME: client2

Send Succeeded.

Testing for receipt of disconnection message regarding client2. (Socket Resource id #8)

Recieved Message from server: CHAT:1
Room Ref is correct: 1
Clientname is correct: client2
Full message recieved:

```
client2 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client2. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Full message received:

```
client2 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing sending message to server by client3. (Socket Resource id #9)

Sending Message to Server:

DISCONNECT: 0

PORT: 0

CLIENT_NAME: client3

Send Succeeded.

Testing for receipt of disconnection message regarding client3. (Socket Resource id #9)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client3

Full message received:

```
client3 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client3. (Socket Resource id #9)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client3

Full message received:

```
client3 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client3. (Socket Resource id #10)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client3

Full message received:

```
client3 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing the sending of a message from client4

Sending Message

CHAT: 2
JOIN_ID: 4
CLIENT_NAME: client4
MESSAGE: hello world from client 4

Send Succeeded.

Testing for receipt of message from client4. (Socket Resource id #10)

Received Message from server: CHAT:2
Room Ref is correct: 2
clientname is correct: client4
Message content is correct:

hello world from client 4

Message receipt successful

Testing for no receipt of message from client4. (Socket Resource id #7)

Nothing to read on Resource id #7 socket as expected.

Testing for no receipt of message from client4. (Socket Resource id #8)

Nothing to read on Resource id #8 socket as expected.

Testing for no receipt of message from client4. (Socket Resource id #9)

Nothing to read on Resource id #9 socket as expected.

Reconnecting first client

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client1. (Socket Resource id #11)

Send Succeeded. Testing response.
Received Message from server: JOINED_CHATROOM:room2
First string is correct form JOINED_CHATROOM:XXXX.
Chatroom name is correct: room2
Second string is correct form SERVER_IP:XXXX.
IP string is valid form: 0.0.0.0
Third string is correct form PORT:XXXX.
Port string is valid form: 25565
Third string is correct form ROOM_REF:XXXX.
room_ref string is valid form: 2
Third string is correct form JOIN_ID:XXXX.
join_id string is valid form: 5

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #10)

Received Message from server: CHAT:2
Room Ref is correct: 2
Clientname is correct: client1
Message form is correct: client1 has joined this chatroom. Full message received:

client1 has joined this chatroom.

Server join message received successfully.

Testing join message regarding client1. (Socket Resource id #11)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

```
client1 has joined this chatroom.
```

Server join message received successfully.

Testing the sending of a message from client4

Sending Message

```
CHAT: 2
```

```
JOIN_ID: 4
```

```
CLIENT_NAME: client4
```

```
MESSAGE: hello world from client 4
```

Send Succeeded.

Testing for receipt of message from client4. (Socket Resource id #11)

Received Message from server: CHAT:2

Room Ref is correct: 2

clientname is correct: client4

Message content is correct:

```
hello world from client 4
```

Message receipt successful

Testing for receipt of message from client4. (Socket Resource id #10)

Received Message from server: CHAT:2

Room Ref is correct: 2

clientname is correct: client4

Message content is correct:

```
hello world from client 4
```

Message receipt successful

Testing sending message to server by client1. (Socket Resource id #11)

Sending Message to Server:

```
DISCONNECT: 0
```

```
PORT: 0
```

```
CLIENT_NAME: client1
```

Send Succeeded.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #11)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Full message received:

```
client1 has left this chatroom.
```

Message correctly includes name of client that has left.

Message receipt successful.

Testing for receipt of disconnection message regarding client1. (Socket Resource id #10)

Received Message from server: CHAT:2

Room Ref is correct: 2

Clientname is correct: client1

Full message received:

client1 has left this chatroom.

Message correctly includes name of client that has left.

Message receipt successful.

Testing sending message to server by client4. (Socket Resource id #10)

Sending Message to Server:

DISCONNECT: 0

PORT: 0

CLIENT_NAME: client4

Send Succeeded.

Reconnecting first client

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client1. (Socket Resource id #12)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 1

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 6

Server Join Test Success

Testing join message regarding client1. (Socket Resource id #12)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client1

Message form is correct: client1 has joined this chatroom. Full message received:

client1 has joined this chatroom.

Server join message received successfully.

Reconnecting second client

Testing connecting to server.

Socket created.

Attempting to connect to 79.97.243.184:25565

Connection Successful for host 79.97.243.184 on port 25565.

Testing joining server by client2. (Socket Resource id #13)

Send Succeeded. Testing response.

Received Message from server: JOINED_CHATROOM:room1

First string is correct form JOINED_CHATROOM:XXXX.

Chatroom name is correct: room1

Second string is correct form SERVER_IP:XXXX.

IP string is valid form: 0.0.0.0

Third string is correct form PORT:XXXX.

Port string is valid form: 25565

Third string is correct form ROOM_REF:XXXX.

room_ref string is valid form: 1

Third string is correct form JOIN_ID:XXXX.

join_id string is valid form: 7

Server Join Test Success

Testing join message regarding client2. (Socket Resource id #13)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message received:

client2 has joined this chatroom.

Server join message received successfully.

Testing join message regarding client2. (Socket Resource id #12)

Received Message from server: CHAT:1

Room Ref is correct: 1

Clientname is correct: client2

Message form is correct: client2 has joined this chatroom. Full message received:

client2 has joined this chatroom.

Server join message received successfully.

Testing the sending of a message from client1

Sending Message

CHAT: 1

JOIN_ID: 6

CLIENT_NAME: client1

MESSAGE: hello world from client 1

Send Succeeded.

Testing for receipt of message from client1. (Socket Resource id #12)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client1

Message content is correct:

hello world from client 1

Message receipt successful

Testing for receipt of message from client1. (Socket Resource id #13)

Received Message from server: CHAT:1

Room Ref is correct: 1

clientname is correct: client1

Message content is correct:

```
hello world from client 1
```

Message receipt successful

Sending Message to server:

```
KILL_SERVICE
```

Succeeded.

Your server should have shutdown...we will now test.

Host socket disconnected as expected.

Tests Complete

All tests passed

Grade: 93 = $\text{round}((50 / 75) * 20 + (1755 / 1755) * 70 + (25 / 25) * 10)$

No grade possible.

Complete.