

SID: 530788539

1. REGISTER

a. Register Successfully

I created an user with username "duy" and password "123" in this case

```
PS C:\Users\ADMIN\PycharmProjects\INFO1112_ASG2> python client.py 127.0.0.1 65432
REGISTER
REGISTER
Enter username: duy
Enter password: 123
REGISTER:ACKSTATUS:0
Successfully created user account duy
```

b. Register unsuccessfully

```
KeyboardInterrupt
PS C:\Users\ADMIN\PycharmProjects\INFO1112_ASG2> python client.py 127.0.0.1 65432
REGISTER
REGISTER
Enter username: thesearelongerforsurethan20characterslol
Error:username length limitation is 20 characters.
Enter username: |
```

Username must be less than 20 characters.

```
KeyboardInterrupt
PS C:\Users\ADMIN\PycharmProjects\INFO1112_ASG2> python client.py 127.0.0.1 65432
REGISTER
REGISTER
Enter username: duy
Enter password: 123
REGISTER:ACKSTATUS:1
Error: User duy already exists
```

I tried to create a user with username "duy" again

```
INFO1112_ASG2 > Users > ADMIN > PycharmProjects > INFO1112_ASG2 > DATABASE.json > {} 6
1 [{"username": "khai", "password": "$2b$12$A5oIBg83yZpZ0c4nJAFJgecoueG0e/7RMCZFUQRASetiE4Vvc0Pxe"},
2 {"username": "ronaldo", "password": "$2b$12$mfNqy/rQj8UB2g5UYK6T/ejEMbpa7WpOR5haoJWpc.NNWQx8vhppe"},
3 {"username": "messi", "password": "$2b$12$9TFqb0FzgtZtWBYAUHRYleXG/FnOaXztB9Nbwt2FNXK2DP5E5s5ae"},
4 {"username": "linh", "password": "$2b$12$/GquY0NBjApUv5s/325VTOD00creiy47n0q2WYayBIRDIPoHMOjjk"},
5 {"username": "hai", "password": "$2b$12$b9lniTb8Wc0aEcNm.NCDPOJ8umyMFk1Y35.0z5LSmj0wqRvE/URbK"},
6 {"username": "Hieu", "password": "$2b$12$iN1p03f2eV9Hi5Km4y6gLulq1jtYTUIjFGfmigTHKVNuyjyqoRgEq"},
7 [{"username": "duy", "password": "$2b$12$xdqnk4.JNfxrRAFCEGwgk..UxXEN4zsJgU8DK0IzuDgmKQCin5uFG"}]
```

The username and password are stored in database.

c. Invalid format

```
C:\Users\ADMIN\Downloads\netcat-win32-1.11\netcat-1.11>echo REGISTER:lee | nc 127.0.0.1 65432
REGISTER:ACKSTATUS:2
```

2. LOGIN

I already created the following users in my database:

username: khai, password: 123

username: messi, password: 123
username: duy, password: 123
username: ronaldo, password: 123

a. Login successfully

```
ConnectionRefusedError: [WinError 10061] No connection could be made because the target machine actively refused it
PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: khai
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome khai
```

b. Login unsuccessfully

```
LOGIN
LOGIN
Enter username: quang
Enter password: 234
LOGIN:ACKSTATUS:1
User quang not found
```

I enter a username that is not existed in my database

```
KeyboardInterrupt
PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: messi
Enter password: 234
LOGIN:ACKSTATUS:2
Wrong password for user messi
```

I entered the wrong password so the server sent back LOGIN:ACKSTATUS:2, indicated a mismatch in the password

c. Invalid format

```
C:\Users\ADMIN\Downloads\netcat-win32-1.11\netcat-1.11>echo LOGIN:lee | nc 127.0.0.1 65432
LOGIN:ACKSTATUS:3
```

3. CREATE

a. CREATE SUCCESSFULLY

```
Welcome duy
CREATE
CREATE
Enter room name: siu
CREATE:ACKSTATUS:0
Successfully created room siu
Waiting for other player...
```

After login, user with username duy create a room named “siu”. And the prompt “Waiting for other player” is displayed, indicating duy is waiting for another player too join the room

b. CREATE UNSUCCESSFULLY

```

CREATE:ACKSTATUS:2
Error: Room siu already exists
CREATE
CREATE
Enter room name: %^%$^
CREATE:ACKSTATUS:1
Error: Room %^%$^ is invalid

```

Here I used another user to login. This player tried to create the room with the same name which is already existed. After that this user tried to create a room name with invalid characters. In both cases, creating the room is unsuccessful and associate prompts are displayed to the client's stdout.

```

PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: messi
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome messi
CREATE
CREATE
Enter room name: dasda
CREATE:ACKSTATUS:3
Error: Server already contains a maximum of 256 rooms

```

This is the case when the user tried to create a room when the server already has 256 rooms.

c. Invalid format

Here I sent the create message without any arguments

```

CREATE:ACKSTATUS:4 C
C:\Users\ADMIN\Downloads\netcat-win32-1.11\netcat-1.11>nc 127.0.0.1 65432
LOGIN:khai:123
LOGIN:ACKSTATUS:0
CREATE
CREATE:ACKSTATUS:4|

```

4. ROOMLIST

a. ROOMLIST SUCCESSFULLY

I created 2 rooms named "siu" and "siuu", both initially only have 1 player

```

ROOMLIST
ROOMLIST
Do you want to list rooms as Player or Viewer? PLAYER
ROOMLIST:ACKSTATUS:0:siu,siuu
Room available to join as PLAYER: siu,siuu
ROOMLIST
ROOMLIST
Do you want to list rooms as Player or Viewer? VIEWER
ROOMLIST:ACKSTATUS:0:siu,siuu
Room available to join as VIEWER: siu,siuu

```

I login as another player and login and join the room named "siu"

```

LOGIN
LOGIN
Enter username: ronaldo
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome ronaldo
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:0

BEGIN:khai:ronaldo

Match between khai and ronaldo
will commence, it is currently khai's turn.

```

After that, I tried to use the ROOMLIST command again

```

Room available to join as VIEWER: siu,siuu
ROOMLIST
ROOMLIST
Do you want to list rooms as Player or Viewer? PLAYER
ROOMLIST:ACKSTATUS:0:siuu
Room available to join as PLAYER: siuu

```

Now only 1 room is available to join as player

b. ROOMLIST UNSUCCESSFULLY

```

PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: khai
Enter password: 123
LOGIN:ACKSTATUS:0

Welcome khai
ROOMLIST
ROOMLIST
Do you want to list rooms as Player or Viewer? not dasda
Error: Please input a valid mode
Do you want to list rooms as Player or Viewer? |

```

Invalid roomlist mode

```

LOGIN:ACKSTATUS:0
Welcome khai
ROOMLIST
ROOMLIST
Do you want to list rooms as Player or Viewer? goat
ROOMLIST:ACKSTATUS:1
Error: Please input a valid mode

```

Here I enter a mode different from both player and viewer, the server sent back the message with status 1.

```

C:\Users\ADMIN\Downloads\netcat-win32-1.11\netcat-1.11>nc 127.0.0.1 65432
LOGIN:khai:123
LOGIN:ACKSTATUS:0
ROOMLIST
ROOMLIST:ACKSTATUS:1

```

Here I sent a ROOMLIST message without any argument, as a result, the server sent back message with status 1

4. JOIN

a. JOIN SUCCESSFULLY

```

Error: No room named no_room
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:0

BEGIN:duy:khai

Match between duy and khai
will commence, it is currently duy's turn.

```

User with username “khai” joins the room “siu” that duy created before. After joining, the BEGIN message is sent to all players and viewers in the room

b. JOIN UNSUCCESSFULLY

```

PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: khai
Enter password: 123
LOGIN:ACKSTATUS:0

Welcome khai
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? dasd
Unknown input
Do you want to join as Player or Viewer? |

```

First case when user enter a mode that is neither PLAYER nor VIEWER

```

Error: Room %^%$^ is invalid
JOIN
JOIN
Enter room name to join: no_room
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:1
Error: No room named no_room
|

```

Another case where a user tries to join a room that is not existed in the server.

```

PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: messi
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome messi
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:2
Error: The room siu already has 2 players
|

```

In this case, user with username “messi” tried to join the room “siu” as a player, which already contains 2 players, therefore joining is unsuccessful.

c. Invalid format

I tried to join with mode different than player and viewer and sent without any argument. The server responds with status 3

```

CREATE
CREATE:ACKSTATUS:4
JOIN:siu:not_player
JOIN:ACKSTATUS:3
JOIN
JOIN:ACKSTATUS:3|

```

5. IN GAME PROGRESS

ERROR CASE

```
Successfully created room siu
Waiting for other player...
BEGIN:khai:messi

Match between khai and messi will commence, it is currently khai's turn.
PLACE
PLACE
Column: 1
Row: 1

BOARDSTATUS:000010000

-----
|   |
-----
| X |
-----
|   |
-----

It is the opponent's turn.
```

Khai places a X in cel <1,1>

```
Successfully joined room siu as a PLAYER
BEGIN:khai:messi

Match between khai and messi will commence, it is currently khai's turn.
BOARDSTATUS:000010000

-----
|   |
-----
| X |
-----
|   |
-----

It is your turn.
PLACE
PLACE
Column: 1
Row: 1
Error: Cell is already occupied.
Column: |
```

messi also places an O this the same cell, leads to the error and prompt the user to enter another coordinates.

```
Row: 1
Error: Cell is already occupied.
Column: 4
Row: 4
(Column/Row) values must be an integer between 0 and 2
row: 4, col: 4
Column: |
```

When the coordinates are not in range [0,2]

ACTUAL GAME

```
PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: messi
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome messi
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:2
Error: The room siu already has 2 players
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? VIEWER
JOIN:ACKSTATUS:0

INPROGRESS:khai:duy
Match between khai and duy is in progress, it is currently khai's turn.
```

When a user joins a room as a viewer, the INPROGRESS message will be sent to that client

```
-----
BEGIN:duy:khai
Match between duy and khai
will commence, it is currently duy's turn.
PLACE
PLACE
Column: 1
Row: 1

BOARDSTATUS:000010000

-----
| |
-----
| X |
-----
| |
-----

It is the opponent's turn.
|
```

Duy will play first, after Duy places, the BOARDSTATUS message is sent to all user in the room, and the corresponding formatted table is printed in the client's stdout

```
-----
BEGIN:duy:khai
Match between duy and khai
will commence, it is currently duy's turn.
BOARDSTATUS:000010000

-----
| |
-----
| X |
-----
| |
-----

PLACE
PLACE
Column: 2
Row: 2

BOARDSTATUS:000010002

-----
| |
-----
| X |
-----
| | 0
-----

|
```

Khai's turn and the BOARDSTATUS is sent again after each turn

```
-----
It is the opponent's turn.
BOARDSTATUS:200010012

-----
0 | |
-----
| X |
-----
| X | 0
-----

It is your turn.
PLACE
PLACE
Column: 1
Row: 0

GAMEEND:210010012:0:duy
Congratulations, you won!
|
```

When it is Duy's turn and he places the X in [0, 1], he wins (3 X's vertically). The GAMEEND message is sent and the associated prompt is printed out

```
Enter username: ronaldo
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome ronaldo
JOIN
JOIN
Enter room name to join: siu
Do you want to join as Player or Viewer? PLAYER
JOIN:ACKSTATUS:0

BEGIN:messi:ronaldo

Match between messi and ronaldo
will commence, it is currently messi's turn.
BOARDSTATUS:000010000

-----
|  |
-----
| X |
-----
|  |
-----

FORFEIT
FORFEIT
GAMEEND:000010000:2:messi
messi won due to the opposing player forfeiting.
```

Another case in another room, here, user with name “messi” wins because user with name “ronaldo” forfeits, and the GAMEEND with status 2 is sent for all user in the room

6. ERROR MESSAGE

```
PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
REGISTER
REGISTER
Enter username: duy
Enter password: 123
REGISTER:ACKSTATUS:0
Successfully created user account duy
CREATE
CREATE
Enter room name: siu
BDAUTH
Error: You must log in to perform this action
```

When the user has not logged in but try to create a room, a BDAUTH message is sent

```
PS C:\Users\ADMIN\PycharmProjects\INF01112_ASG2> python client.py 127.0.0.1 65432
LOGIN
LOGIN
Enter username: khai
Enter password: 123
LOGIN:ACKSTATUS:0
Welcome khai
PLACE
PLACE
Column: 1
Row: 1

NOROOM
```

When a user is not inside a room but try to execute the PLACE command, a NOROOM message is sent