PROJECT REPORT

GAME SHOW IN PYTHON USING SOCKET PROGRAMMING

1) PROJECT OVERVIEW:

There is a host who conducts a game show and participants/players who provide answers. There are three participants. The host has a long list of questions and correct answers with him. He randomly chooses one of the questions (making sure it is not a repeat of previous questions) and sends to all three players. The players receive the question, think about the answer for a while and press the buzzer. There is a timer for 10 seconds for buzzer to be pressed. Otherwise, the host moves on to the next question. The first one to press the buzzer is given a chance to provide the answer within 10 seconds. If the answer is correct, he is given 1 point, otherwise -0.5. Nobody gets chance to answer this question again. The host then proceeds with the next question. The game stops when any player gets 5 points and that player is declared the winner.

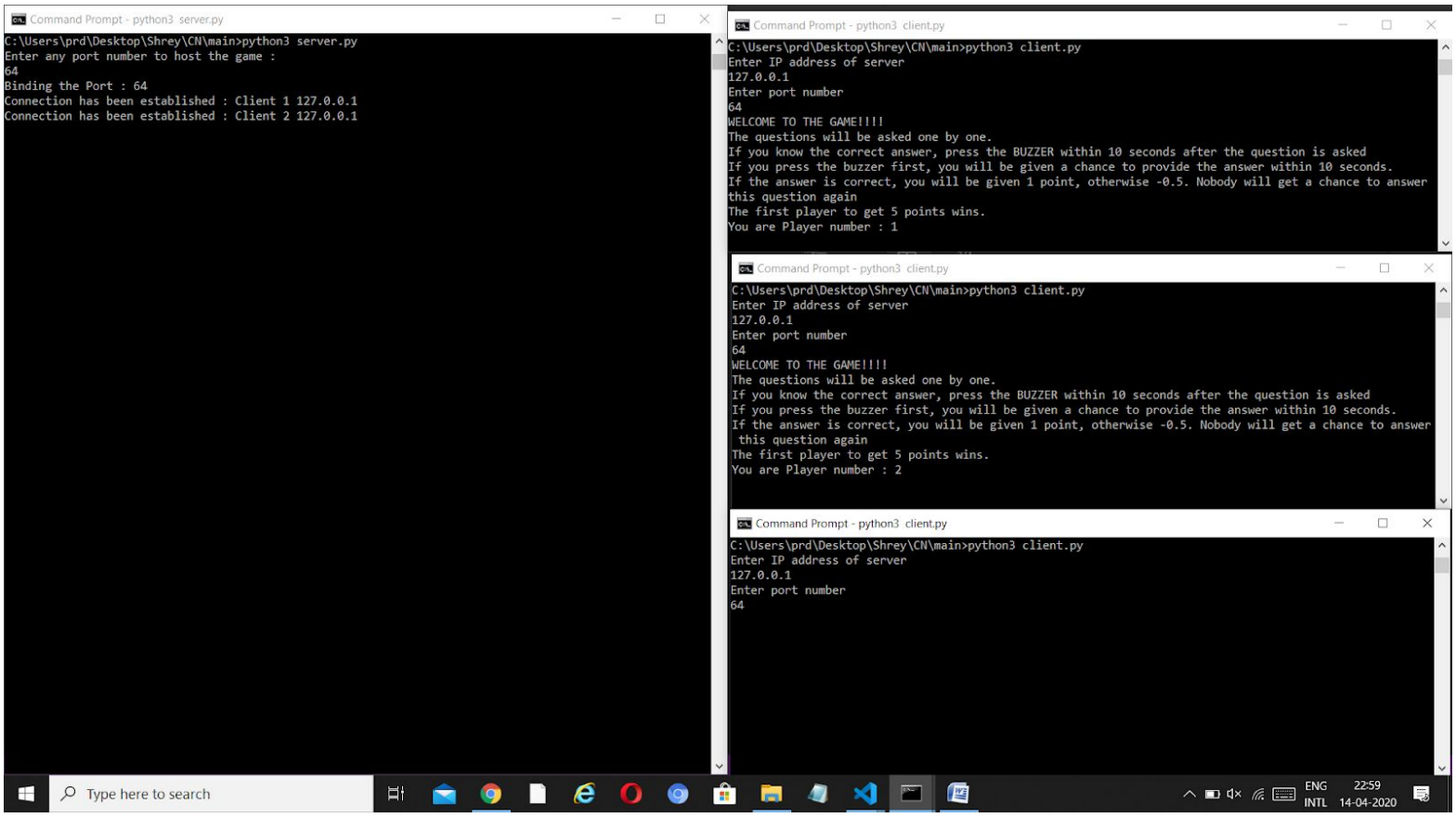
2) INSTRUCTIONS TO RUN THE PROGRAM:

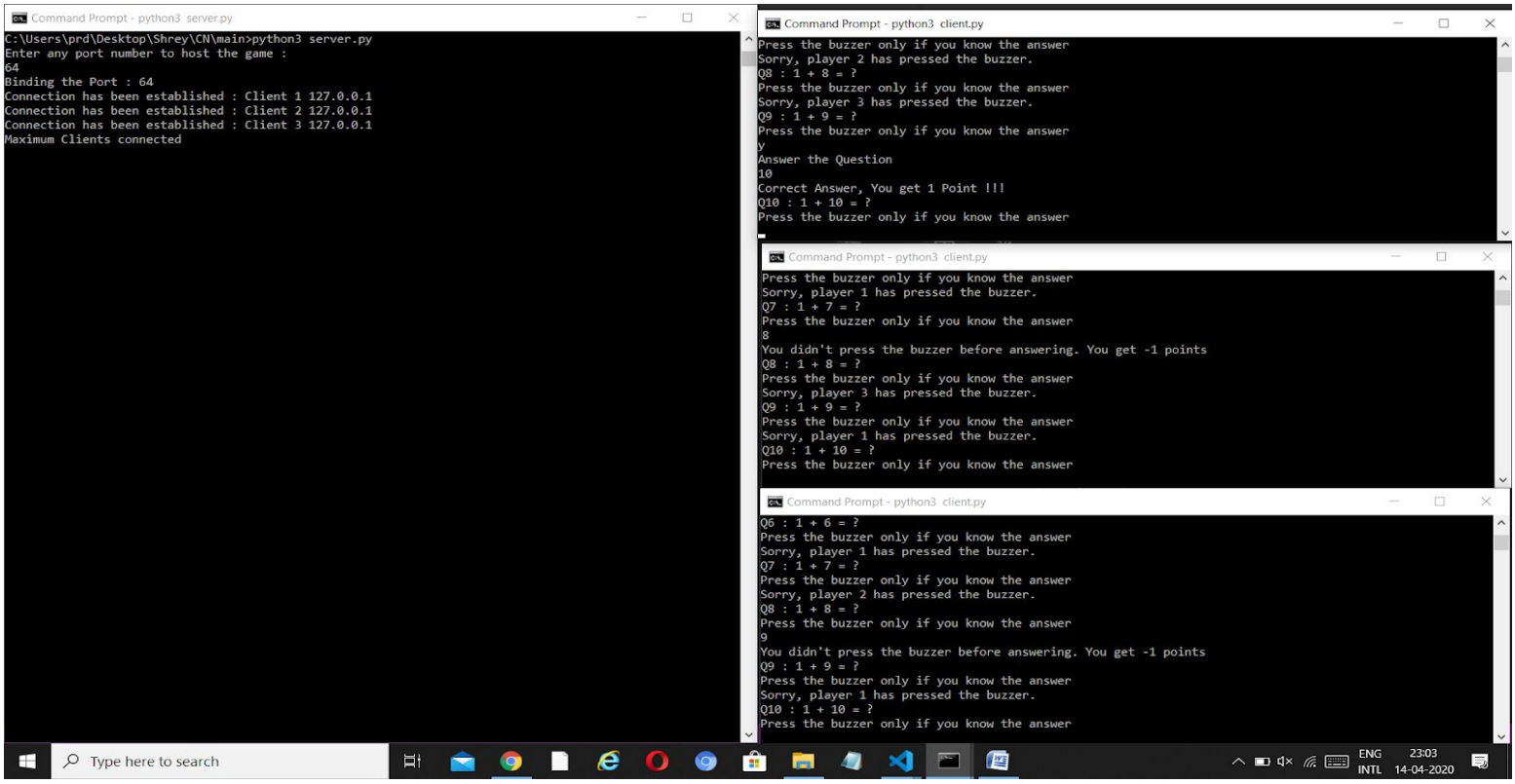
- Save the two files server.py and client.py at a location.
- Open command terminal, go to the location where the server file is saved, and type **python3 server.py**
- Enter any port number to host the game (eg. 64). A message will come: “Binding the Port”. If not, try again.
- Then simultaneously open **four more** command terminals and go to the location where client file is saved on all of them. (We won’t be using the fourth one)
- Type **python3 client.py** on all the four terminals
- Enter the IP address (eg. 127.0.0.1) and port number (eg. 64) of the host **on all the four command terminals**
- Once you enter the IP address and port number on the fifth (last) command terminal, **minimise it, since it is of no use to us, but do not close it.**
- Now read the instructions on the three client windows and the questions will start coming.
- To answer a question press the buzzer, that is **press y and then Enter** (**NOTE:** Once you press y and then Enter once, you will have to wait until the 10 second window closes. Only then will you be told to answer the question. Hence, press the buzzer once then wait for some time.)
- You have 10 seconds to press the buzzer once a question comes on the screen, else it will move on to the next question.
- Once you press the buzzer, you will be told to give the answer. To answer the question, **type the answer and press enter.** If it is correct, you will be awarded 1 point, else -0.5 points.
- If you give correct answer but without the buzzer, 1 point will be deducted from your score.
- The first player of the three to reach 5 points will be declared the winner.
- After the game ends, scoreboard will be displayed on the server screen and each client will be notified if he has won, or who the winner is.

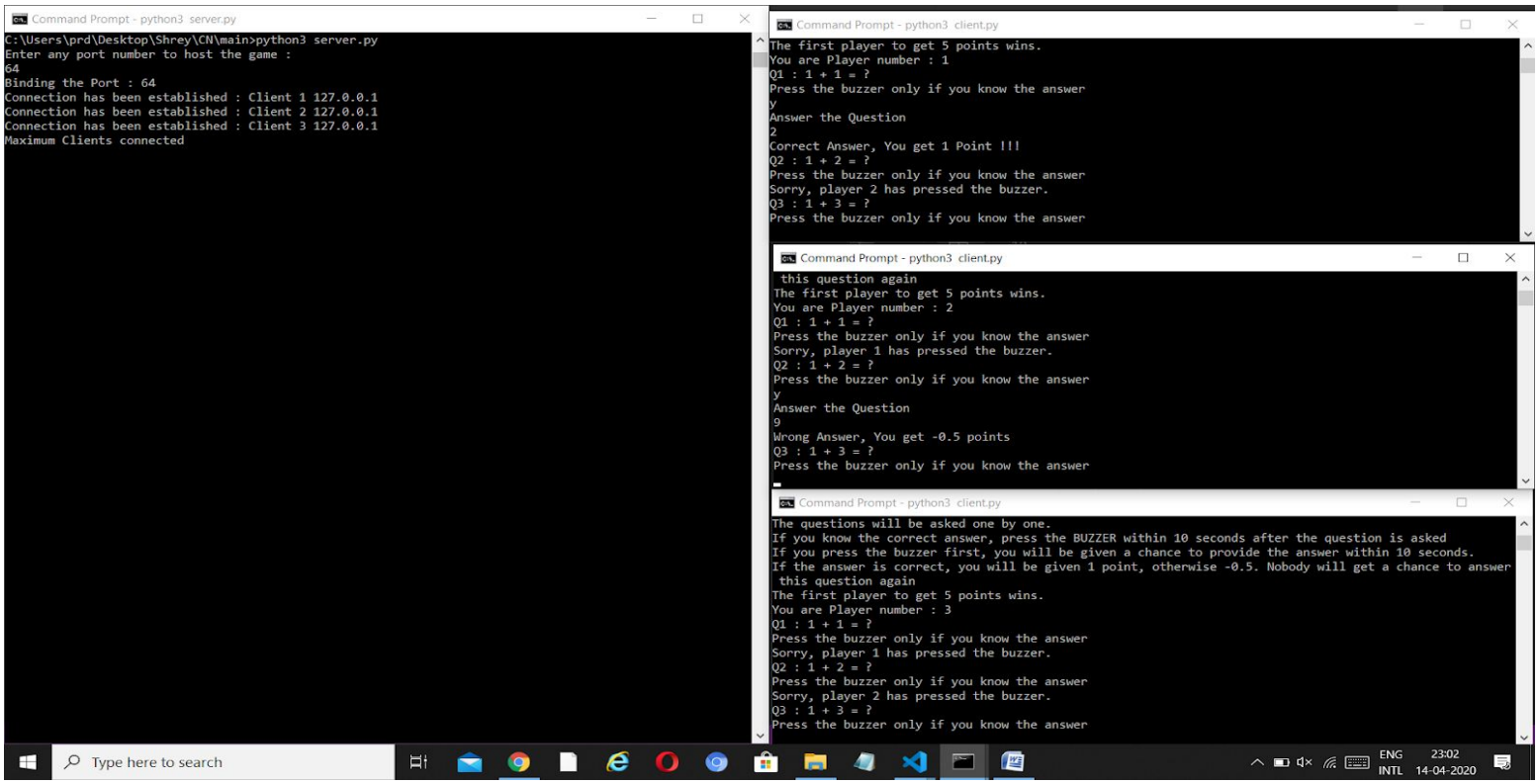
3) DESCRIPTION:

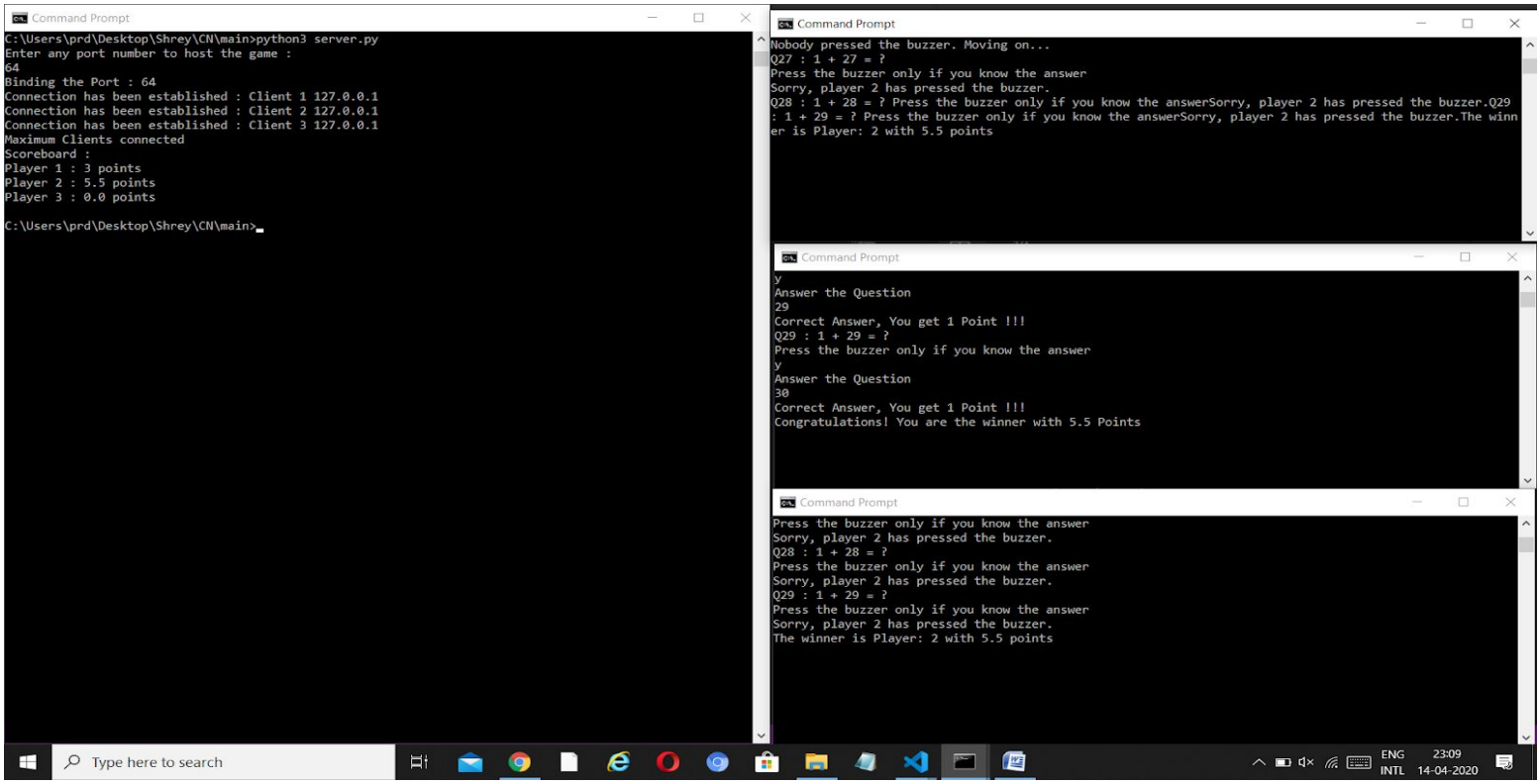
I have divided the project into two phases, the client phase and the server phase. First, the server waits for a connection from the **four clients** (of which the players are three) and then proceeds with the questions only if all the participants have joined. Each of them has been assigned as Player1, Player 2 and Player 3 with respect to the time of their participation. Then the server broadcasts the questions from the stored set of questions in the list given by initiating the **thread_function()** function. It then waits for buzzer to be pressed from any one of the user and then waits for the user to give some input. If the user gives a correct answer his score is incremented accordingly and reduced if it is a wrong answer. It keeps on doing the process until a player scores 5 points. Then the program is ended.

4) SOME SCREENSHOTS:




Command Prompt - python3 server.py
C:\Users\prd\Desktop\Shrey\CN\main>python3 server.py
Enter any port number to host the game :
64
Binding the Port : 64
Connection has been established : Client 1 127.0.0.1
Connection has been established : Client 2 127.0.0.1
Connection has been established : Client 3 127.0.0.1
Maximum Clients connected
Command Prompt - python3 client.py
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q8 : 1 + 8 = ?
Press the buzzer only if you know the answer
Sorry, player 3 has pressed the buzzer.
Q9 : 1 + 9 = ?
Press the buzzer only if you know the answer
y
Answer the Question
10
Correct Answer, You get 1 Point !!!
Q10 : 1 + 10 = ?
Press the buzzer only if you know the answer
Command Prompt - python3 client.py
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q7 : 1 + 7 = ?
Press the buzzer only if you know the answer
8
You didn't press the buzzer before answering. You get -1 points
Q8 : 1 + 8 = ?
Press the buzzer only if you know the answer
Sorry, player 3 has pressed the buzzer.
Q9 : 1 + 9 = ?
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q10 : 1 + 10 = ?
Press the buzzer only if you know the answer
Command Prompt - python3 client.py
Q6 : 1 + 6 = ?
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q7 : 1 + 7 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q8 : 1 + 8 = ?
Press the buzzer only if you know the answer
9
You didn't press the buzzer before answering. You get -1 points
Q9 : 1 + 9 = ?
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q10 : 1 + 10 = ?
Press the buzzer only if you know the answer
Type here to search
ENG
INTL
23:03
14-04-2020


Command Prompt - python3 server.py
C:\Users\prd\Desktop\Shrey\CN\main>python3 server.py
Enter any port number to host the game :
64
Binding the Port : 64
Connection has been established : Client 1 127.0.0.1
Connection has been established : Client 2 127.0.0.1
Connection has been established : Client 3 127.0.0.1
Maximum Clients connected
Command Prompt - python3 client.py
The first player to get 5 points wins.
You are Player number : 1
Q1 : 1 + 1 = ?
Press the buzzer only if you know the answer
y
Answer the Question
2
Correct Answer, You get 1 Point !!!
Q2 : 1 + 2 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q3 : 1 + 3 = ?
Press the buzzer only if you know the answer
Command Prompt - python3 client.py
this question again
The first player to get 5 points wins.
You are Player number : 2
Q1 : 1 + 1 = ?
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q2 : 1 + 2 = ?
Press the buzzer only if you know the answer
y
Answer the Question
9
Wrong Answer, You get -0.5 points
Q3 : 1 + 3 = ?
Press the buzzer only if you know the answer
Command Prompt - python3 client.py
The questions will be asked one by one.
If you know the correct answer, press the BUZZER within 10 seconds after the question is asked
If you press the buzzer first, you will be given a chance to provide the answer within 10 seconds.
If the answer is correct, you will be given 1 point, otherwise -0.5. Nobody will get a chance to answer
this question again
The first player to get 5 points wins.
You are Player number : 3
Q1 : 1 + 1 = ?
Press the buzzer only if you know the answer
Sorry, player 1 has pressed the buzzer.
Q2 : 1 + 2 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q3 : 1 + 3 = ?
Press the buzzer only if you know the answer
Type here to search
ENG
INTL
23:02
14-04-2020


Command Prompt
C:\Users\prd\Desktop\Shrey\CN\main>python3 server.py
Enter any port number to host the game :
64
Binding the Port : 64
Connection has been established : Client 1 127.0.0.1
Connection has been established : Client 2 127.0.0.1
Connection has been established : Client 3 127.0.0.1
Maximum Clients connected
Scoreboard :
Player 1 : 3 points
Player 2 : 5.5 points
Player 3 : 0.0 points
C:\Users\prd\Desktop\Shrey\CN\main>
Command Prompt
Nobody pressed the buzzer. Moving on...
Q27 : 1 + 27 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q28 : 1 + 28 = ? Press the buzzer only if you know the answerSorry, player 2 has pressed the buzzer.Q29
: 1 + 29 = ? Press the buzzer only if you know the answerSorry, player 2 has pressed the buzzer.The winn
er is Player: 2 with 5.5 points
Command Prompt
y
Answer the Question
29
Correct Answer, You get 1 Point !!!
Q29 : 1 + 29 = ?
Press the buzzer only if you know the answer
y
Answer the Question
30
Correct Answer, You get 1 Point !!!
Congratulations! You are the winner with 5.5 Points
Command Prompt
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q28 : 1 + 28 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
Q29 : 1 + 29 = ?
Press the buzzer only if you know the answer
Sorry, player 2 has pressed the buzzer.
The winner is Player: 2 with 5.5 points
Type here to search
ENG
INTL
23:09
14-04-2020