Submission Worksheet

CLICK TO GRADE

https://learn.ethereallab.app/assignment/IT114-002-S2024/it114-milestone-2-chatroom-2024/grade/jeo29

IT114-002-S2024 - [IT114] Milestone 2 Chatroom 2024

Submissions:

Submission Selection

1 Submission [active] 4/3/2024 1:11:46 PM

Instructions

COLLAPSE

Implement the Milestone 2 features from the project's proposal document:
https://docs.google.com/document/d/1ONmvEvel97GTFPGfVwwQC96xSsobbSbk56145XizQG4/view
Make sure you add your ucid/date as code comments where code changes are done
All code changes should reach the Milestone2 branch
Create a pull request from Milestone2 to main and keep it open until you get the output PDF from this assignment.
Gather the evidence of feature completion based on the below tasks.
Once finished, get the output PDF and copy/move it to your repository folder on your local machine.
Run the necessary git add, commit, and push steps to move it to GitHub
Complete the pull request that was opened earlier
Upload the same output PDF to Canvas

Branch name: Milestone2

Tasks: 12 Points: 10.00

Demonstrate Usage of Payloads (2 pts.)

COLLAPSE

COLLAPSE

Task #1 - Points: 1

Text: Screenshots of your Payload class and subclasses and PayloadType

Checklist *The checkbox are for your own tracking

#	Points	Details
#1	1	Payload, equivalent of RollPayload, and any others
#2	1	Screenshots should include ucid and date comment
#3	1	Each screenshot should be clearly captioned

Task Screenshots:

Gallery Style: Large View

Small Medium Large

```
121     //UCID:jeo29
122     //March 30,2024
123     private boolean processCommands(String message, ServerThread client) {
124         if (message.startsWith(prefix:"/roll")) {
125             String command = message.substring(beginIndex:6).trim();
126             try {
127                 if (command.matches(regex:"\\d+d\\d+")) {
128                     // Format 2: /roll #d#
129                     String[] diceParts = command.split(regex:"d");
130                     int numberOfDice = Integer.parseInt(diceParts[0].trim());
131                     int numberOfSides = Integer.parseInt(diceParts[1].trim());
132                     StringBuilder result = new StringBuilder("Rolling " + numberOfDice + "d" + numberOfSides + ": ");
133                     for (int i = 0; i < numberOfDice; i++) {
134                         int roll = (int) (Math.random() * numberOfSides) + 1;
135                         result.append(roll);
136                         if (i < numberOfDice - 1) {
137                             result.append(str:", ");
138                         }
```

Payload, equivalent of RollPayload, and any others

Checklist Items (1)

#1 Payload, equivalent of RollPayload, and any others

```
121     //UCID:jeo29
122     //March 30,2024
123     private boolean processCommands(String message, ServerThread client) {
124         if (message.startsWith(prefix:"/roll")) {
125             String command = message.substring(beginIndex:6).trim();
126             try {
127                 if (command.matches(regex:"\\d+d\\d+")) {
128                     // Format 2: /roll #d#
129                     String[] diceParts = command.split(regex:"d");
130                     int numberOfDice = Integer.parseInt(diceParts[0].trim());
131                     int numberOfSides = Integer.parseInt(diceParts[1].trim());
132                     StringBuilder result = new StringBuilder("Rolling " + numberOfDice + "d" + numberOfSides + ": ");
133                     for (int i = 0; i < numberOfDice; i++) {
134                         int roll = (int) (Math.random() * numberOfSides) + 1;
135                         result.append(roll);
136                         if (i < numberOfDice - 1) {
137                             result.append(str:", ");
138                         }
```

```
139                 } <- #133-139 for (int i = 0; i < numberOfDice; i++)
140                 sendMessage(client, result.toString());
141             } else {
142                 // Format 1: /roll 0 - X or 1 - X
143                 String[] rangeParts = command.split(regex:"-");
144                 int min = Integer.parseInt(rangeParts[0].trim());
145                 int max = Integer.parseInt(rangeParts[1].trim());
146                 int roll = (int) (Math.random() * (max - min + 1)) + min;
147                 sendMessage(client, "Rolling " + min + " - " + max + ": " + roll);
148             } <- #141-148 else
149             return true;
150         } catch (Exception e) {
151             return false;
152         }
153     } else if (message.equals(anObject:"/flip")) {
154         return handleFlipCommand(client);
155     } else if (message.startsWith(prefix:"/format")) {
156         String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
157         sendMessage(client, formattedMessage);
158         return true;
159     } <- #155-159 else if (message.startsWith("/format"))
160     return false;
161 } <- #123-161 private boolean processCommands(String message, ServerThread ...
```

Payload, equivalent of RollPayload, and any others

Checklist Items (1)

#1 Payload, equivalent of RollPayload, and any others

```
153     } else if (message.equals(anObject:"/flip")) {
154         return handleFlipCommand(client);
155     } else if (message.startsWith(prefix:"/format")) {
156         String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
157         sendMessage(client, formattedMessage);
158         return true;
159     } <- #155-159 else if (message.startsWith("/format"))
160     return false;
161 } <- #123-161 private boolean processCommands(String message, ServerThread ...
162
163 //UCID:jeo29
164 //March 30,2024
165 private boolean handleFlipCommand(ServerThread client) {
166     int flip = (int) (Math.random() * 2);
167     String result = (flip == 0) ? "Heads" : "Tails";
168     sendMessage(client, "Coin flip: " + result);
169     return true;
170 } <- #165-170 private boolean handleFlipCommand(ServerThread client)
```

Payload, equivalent of RollPayload, and any others

Checklist Items (1)

#1 Payload, equivalent of RollPayload, and any others

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Task #2 - Points: 1

Text: Screenshots of the payloads being debugged/output to the terminal

Checklist

*The checkboxes are for your own tracking

#	Points	Details
#1	1	Demonstrate flip
#2	1	Demonstrate roll (both versions)
#3	1	Demonstrate formatted message along with any others
#4	1	Each screenshot should be clearly captioned

Task Screenshots:

Gallery Style: Large View

Small Medium Large

```
152             }
153         } else if (message.equals(anObject:"/flip")) {
154             return handleFlipCommand(client);
155         } else if (message.startsWith(prefix:"/format")) {
156             String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
157             sendMessage(client, formattedMessage);
158             return true;
159         } <- #155-159 else if (message.startsWith("/format"))
160         return false;
161     } <- #123-161 private boolean processCommands(String message, ServerThread ...
162
163     //UCID:jeo29
164     //March 30,2024
165     private boolean handleFlipCommand(ServerThread client) {
166         int flip = (int) (Math.random() * 2);
167         String result = (flip == 0) ? "Heads" : "Tails";
168         sendMessage(client, "Coin flip: " + result);
169         return true;
170     } <- #165-170 private boolean handleFlipCommand(ServerThread client)
```

Demonstrate flip

Checklist Items (1)

#1 Demonstrate flip

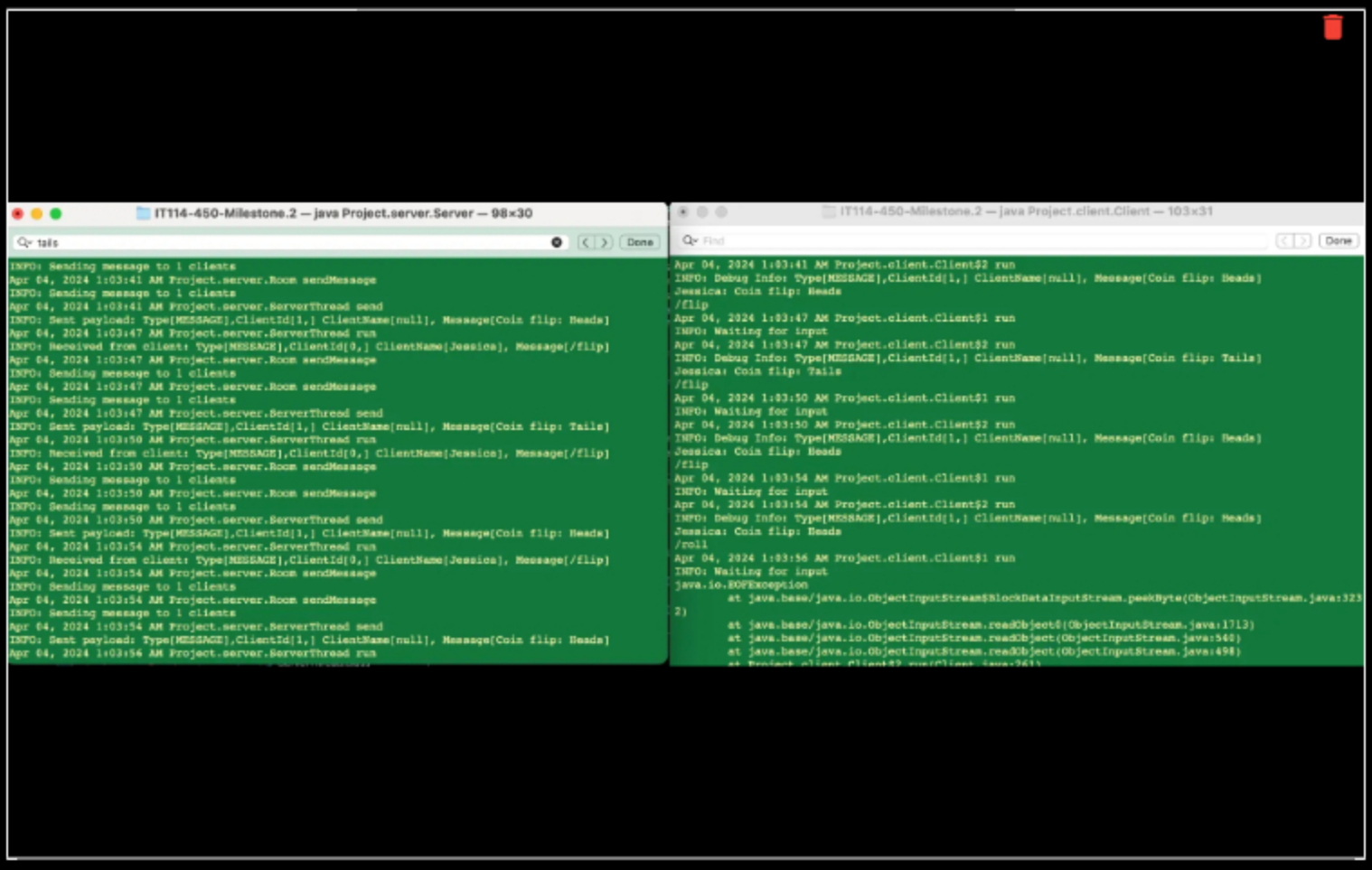
```
121     //UCID:jeo29
122     //March 30,2024
123     private boolean processCommands(String message, ServerThread client) {
124         if (message.startsWith(prefix:"/roll")) {
125             String command = message.substring(beginIndex:6).trim();
126             try {
127                 if (command.matches(regex:"\\d+d\\d+")) {
```

```
                // Format 2: /roll #d#
                String[] diceParts = command.split(regex:"d");
                int numberOfDice = Integer.parseInt(diceParts[0].trim());
                int numberOfSides = Integer.parseInt(diceParts[1].trim());
                StringBuilder result = new StringBuilder("Rolling " + numberOfDice + "d" + numberOfSides + ": ");
                for (int i = 0; i < numberOfDice; i++) {
                    int roll = (int) (Math.random() * numberOfSides) + 1;
                    result.append(roll);
                    if (i < numberOfDice - 1) {
                        result.append(str:", ");
                    }
                } <- #133-139 for (int i = 0; i < numberOfDice; i++)
                sendMessage(client, result.toString());
            } else {
                // Format 1: /roll 0 - X or 1 - X
                String[] rangeParts = command.split(regex:"-");
                int min = Integer.parseInt(rangeParts[0].trim());
                int max = Integer.parseInt(rangeParts[1].trim());
                int roll = (int) (Math.random() * (max - min + 1)) + min;
                sendMessage(client, "Rolling " + min + " - " + max + ": " + roll);
            } <- #141-148 else
            return true;
        } catch (Exception e) {
            return false;
        }
    } else if (message.equals(anObject:"/flip")) {
        return handleFlipCommand(client);
    } else if (message.startsWith(prefix:"/format")) {
        String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
        sendMessage(client, formattedMessage);
        return true;
    } <- #155-159 else if (message.startsWith("/format"))
    return false;
} <- #123-161 private boolean processCommands(String message, ServerThread ...
```

Demonstrate roll (both versions)

Checklist Items (1)

#2 Demonstrate roll (both versions)

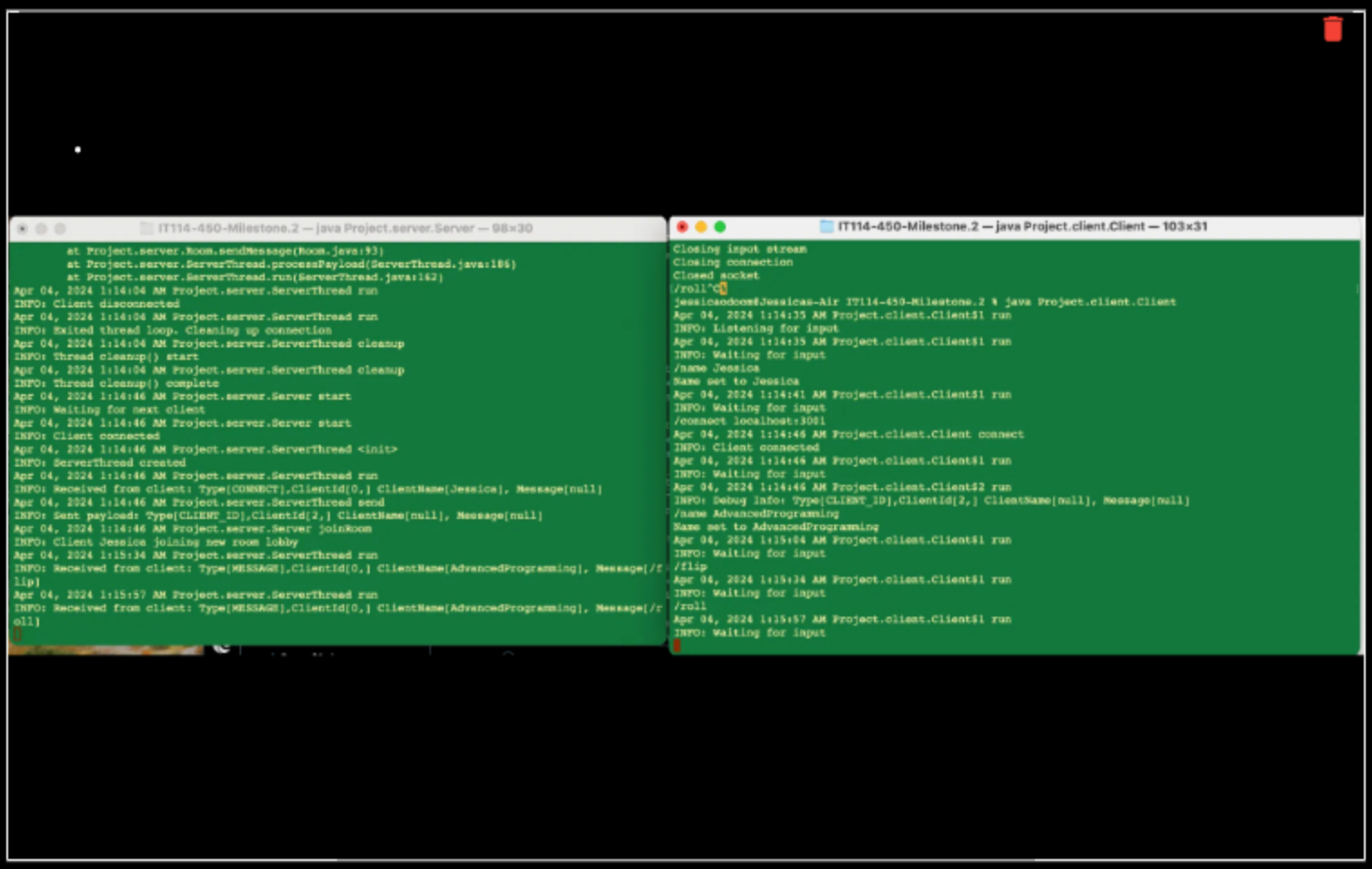


Heads/Tails

Checklist Items (1)

#2 Demonstrate roll (both versions)

#2 Demonstrate roll (both versions)



Roll version

Checklist Items (1)

#2 Demonstrate roll (both versions)

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Task #3 - Points: 1

Text: Explain the purpose of payloads and how your flip/roll payloads were made

Response:

The purpose of Payloads and how flip roll payloads were made is that in the 'Room' class payloads are implemented as text commands that clients send to perform the commands of flip or role. the flip command provides us with heads or tails. While the roll command generates a random number.

COLLAPSE

Demonstrate Roll Command (2 pts.)

COLLAPSE

Task #1 - Points: 1

Text: Screenshot of the following items

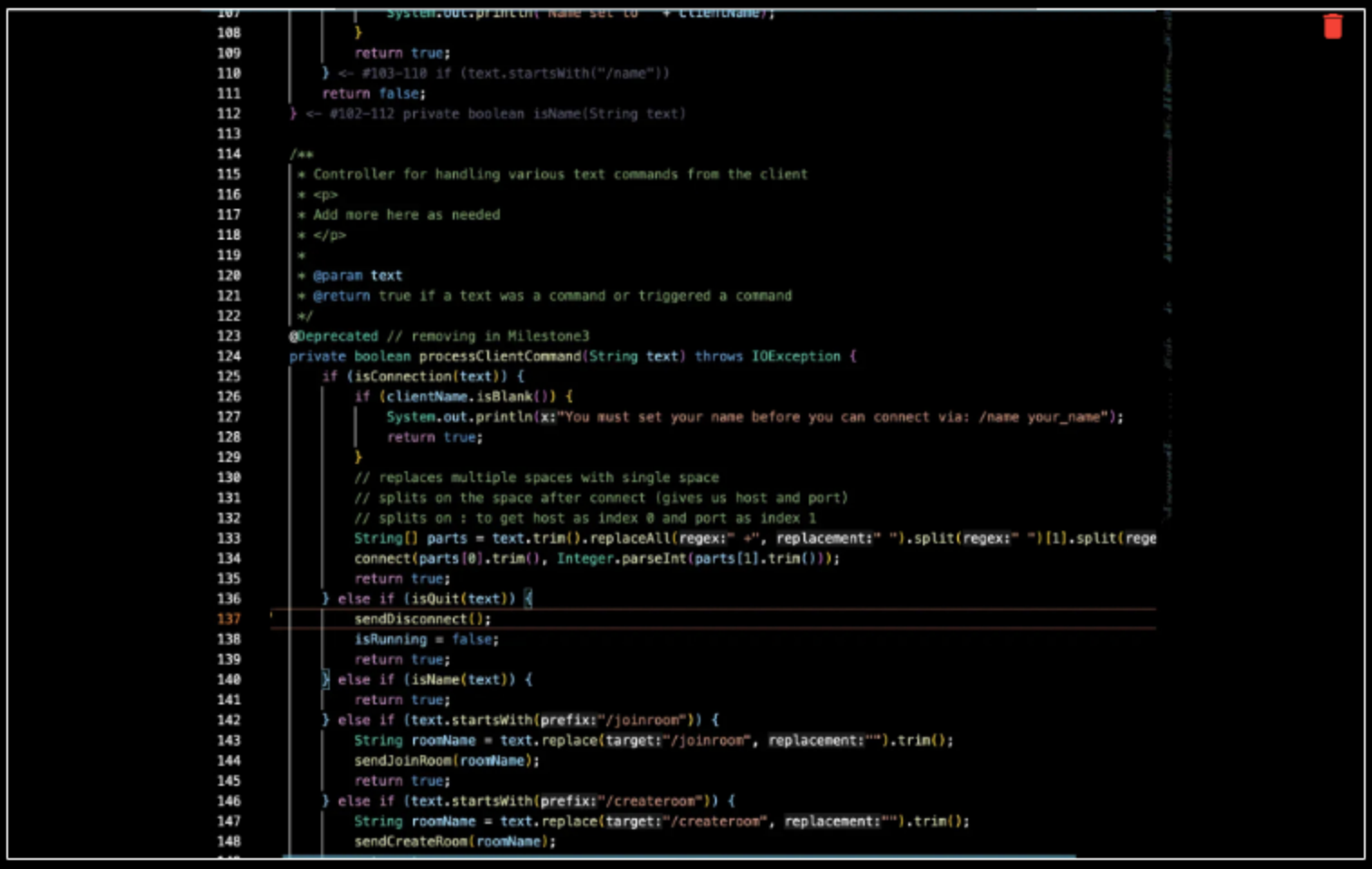
Checklist *The checkboxes are for your own tracking

#	Points	Details
#1	1	Client code that captures the command and converts it to a RollPayload (or equivalent) for both scenarios /roll # and /roll #d#
#2	1	ServerThread code receiving the payload and passing it to the Room
#3	1	Room handling the roll action correctly for both scenarios (/roll # and /roll #d#) including the message going back out to all clients
#4	1	Code screenshots should include ucid and date comment
#5	1	Each screenshot should be clearly captioned

Task Screenshots:

Gallery Style: Large View

Small Medium Large

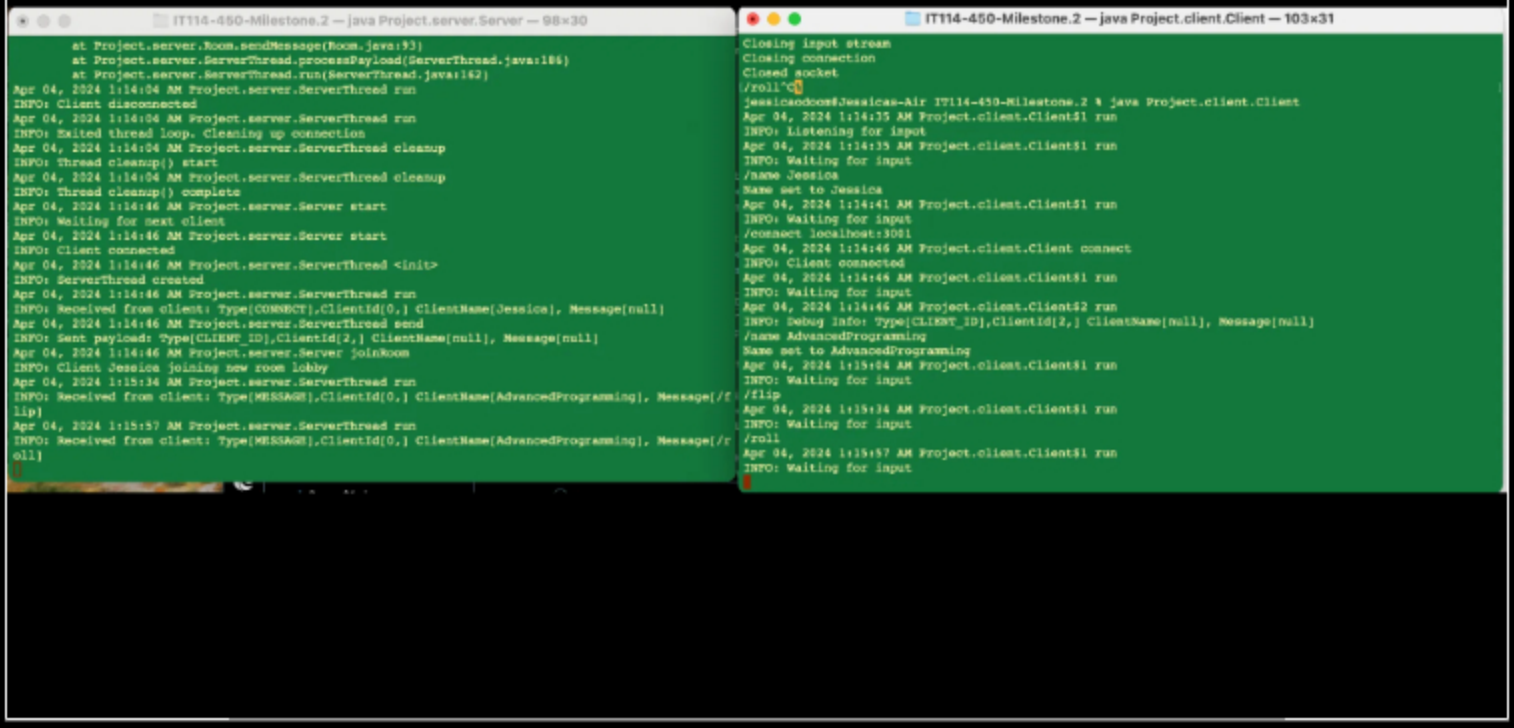


```
107                 System.out.println("Name set to " + clientName);
108             }
109             return true;
110         } <- #103-110 if (text.startsWith("/name"))
111         return false;
112     } <- #102-112 private boolean isName(String text)
113
114     /**
115      * Controller for handling various text commands from the client
116      * <p>
117      * Add more here as needed
118      * </p>
119      *
120      * @param text
121      * @return true if a text was a command or triggered a command
122      */
123     @Deprecated // removing in Milestone3
124     private boolean processClientCommand(String text) throws IOException {
125         if (isConnection(text)) {
126             if (clientName.isBlank()) {
127                 System.out.println(x:"You must set your name before you can connect via: /name your_name");
128                 return true;
129             }
130             // replaces multiple spaces with single space
131             // splits on the space after connect (gives us host and port)
132             // splits on : to get host as index 0 and port as index 1
133             String[] parts = text.trim().replaceAll(regex:" +", replacement:" ").split(regex:" ")[1].split(rege
134             connect(parts[0].trim(), Integer.parseInt(parts[1].trim()));
135             return true;
136         } else if (isQuit(text)) {
137             sendDisconnect();
138             isRunning = false;
139             return true;
140         } else if (isName(text)) {
141             return true;
142         } else if (text.startsWith(prefix:"/joinroom")) {
143             String roomName = text.replace(target:"/joinroom", replacement:"").trim();
144             sendJoinRoom(roomName);
145             return true;
146         } else if (text.startsWith(prefix:"/createroom")) {
147             String roomName = text.replace(target:"/createroom", replacement:"").trim();
148             sendCreateRoom(roomName);
```

Client code

Checklist Items (1)

#1 Client code that captures the command and converts it to a RollPayload (or equivalent) for both scenarios /roll # and /roll #d#



Message going out to all clients

Checklist Items (1)

#3 Room handling the roll action correctly for both scenarios (/roll # and /roll #d#) including the message going back out to all clients

```
121     //UCID:jeo29
122     //Date:March 30,
123     private boolean processCommands(String message, ServerThread client) {
124         if (message.startsWith(prefix:"/roll")) {
125             String command = message.substring(beginIndex:6).trim();
126             try {
127                 if (command.matches(regex:"\\d+d\\d+")) {
128                     // Format 2: /roll #d#
129                     String[] diceParts = command.split(regex:"d");
130                     int numberOfDice = Integer.parseInt(diceParts[0].trim());
131                     int numberOfSides = Integer.parseInt(diceParts[1].trim());
132                     StringBuilder result = new StringBuilder("Rolling " + numberOfDice + "d" + numberOfSides + ": ");
133                     for (int i = 0; i < numberOfDice; i++) {
134                         int roll = (int) (Math.random() * numberOfSides) + 1;
135                         result.append(roll);
136                         if (i < numberOfDice - 1) {
137                             result.append(str:", ");
138                         }
139                     } <- #133-139 for (int i = 0; i < numberOfDice; i++)
140                     sendMessage(client, result.toString());
141                 } else {
142                     // Format 1: /roll 0 - X or 1 - X
143                     String[] rangeParts = command.split(regex:"-");
144                     int min = Integer.parseInt(rangeParts[0].trim());
145                     int max = Integer.parseInt(rangeParts[1].trim());
146                     int roll = (int) (Math.random() * (max - min + 1)) + min;
147                     sendMessage(client, "Rolling " + min + " - " + max + ": " + roll);
148                 } <- #141-148 else
149                 return true;
150             } catch (Exception e) {
151                 return false;
152             }
153         } else if (message.equals(anObject:"/flip")) {
154             return handleFlipCommand(client);
155         } else if (message.startsWith(prefix:"/format")) {
156             String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
157             sendMessage(client, formattedMessage);
158             return true;
159         } <- #155-159 else if (message.startsWith("/format"))
160         return false;
```

ServerThread

Checklist Items (1)

#2 ServerThread code receiving the payload and passing it to the Room

```
171  ///UCID:jeo29
172  //Date:March 30,
173  private String formatMessage(String message) {
174      // Bold text
175      message = message.replaceAll(regex:"\\*(.*?)\\*", replacement:"<b>$1</b>");
176      // Italic text
177      message = message.replaceAll(regex:"_(.*?)_", replacement:"<i>$1</i>");
178      // Red text
179      message = message.replaceAll(regex:"#r(.*?)#", replacement:"<span style=\"color:red\">$1</span>");
180      // Green text
181      message = message.replaceAll(regex:"#g(.*?)#", replacement:"<span style=\"color:green\">$1</span>");
182      // Blue text
183      message = message.replaceAll(regex:"#b(.*?)#", replacement:"<span style=\"color:blue\">$1</span>");
184      // Underline text
185      message = message.replaceAll(regex:"#u(.*?)#", replacement:"<u>$1</u>");
186      return message;
187  } <- #173-187 private String formatMessage(String message)
188
189
190
191      public void disconnectClient(ServerThread serverThread) {
192      }
193
      Run | Debug
194  public static void main(String[] args) {
195      try (Room room = new Room(name:"Sample Room")) {
196          String sourceMessage = "Hello *bold* _italic_ #rgreen# #bblue# #uunderline# text";
197          String transformedMessage = room.formatMessage(sourceMessage);
198
199          System.out.println("Source Message: " + sourceMessage);
200          System.out.println("Transformed Message: " + transformedMessage);
201      } <- #195-201 try (Room room = new Room("Sample Room"))
202  } <- #194-202 public static void main(String[] args)
203  }- #10-203 public class Room implements AutoCloseable
204
```

Room handling

Checklist Items (1)

#3 Room handling the roll action correctly for both scenarios (/roll # and /roll #d#) including the message going back out to all clients

COLLAPSE

Task #2 - Points: 1

Text: Explain the logic in how the two different roll formats are handled and how the message flows from the client, to the Room, and shared with all other users

Response:

When a client sends a /roll command, the Room class distinguishes between dice rolls and random number ranges (e.g., 1-100) using the processCommands method. It then calculates the outcome based on the two possible outcomes. The result is the message that is sent between rooms. If sending fails due to a client disconnecting, the handleDisconnect method removes the client from the list. It keeps all users in rooms engaged.

COLLAPSE

Demonstrate Flip Command (1 pt.)

COLLAPSE

Task #1 - Points: 1

Text: Screenshot of the following items

Checklist

*The checkboxes are for your own tracking

#	Points	Details
#1	1	Client code that captures the command and converts it to a payload
#2	1	ServerThread receiving the payload and passing it to the Room
#3	1	Room handling the flip action correctly
#4	1	Code screenshots should include ucid and date comment
#5	1	Each screenshot should be clearly captioned

Task Screenshots:

Gallery Style: Large View

Small Medium Large

```
121    //UCID:jeo29
122    //Date:March 30,
123    private boolean processCommands(String message, ServerThread client) {
124        if (message.startsWith(prefix:"/roll")) {
125            String command = message.substring(beginIndex:6).trim();
126            try {
127                if (command.matches(regex:"\\d+d\\d+")) {
128                    // Format 2: /roll #d#
129                    String[] diceParts = command.split(regex:"d");
130                    int numberOfDice = Integer.parseInt(diceParts[0].trim());
131                    int numberOfSides = Integer.parseInt(diceParts[1].trim());
132                    StringBuilder result = new StringBuilder("Rolling " + numberOfDice + "d" + numberOfSides + ": ");
133                    for (int i = 0; i < numberOfDice; i++) {
134                        int roll = (int) (Math.random() * numberOfSides) + 1;
135                        result.append(roll);
136                        if (i < numberOfDice - 1) {
137                            result.append(str:", ");
138                        }
139                    } <- #133-139 for (int i = 0; i < numberOfDice; i++)
140                    sendMessage(client, result.toString());
141                } else {
142                    // Format 1: /roll 0 - X or 1 - X
143                    String[] rangeParts = command.split(regex:"-");
144                    int min = Integer.parseInt(rangeParts[0].trim());
145                    int max = Integer.parseInt(rangeParts[1].trim());
146                    int roll = (int) (Math.random() * (max - min + 1)) + min;
147                    sendMessage(client, "Rolling " + min + " - " + max + ": " + roll);
148                } <- #141-148 else
149                return true;
150            } catch (Exception e) {
151                return false;
152            }
153        } else if (message.equals(anObject:"/flip")) {
154            return handleFlipCommand(client);
155        } else if (message.startsWith(prefix:"/format")) {
156            String formattedMessage = formatMessage(message.substring(beginIndex:8).trim());
157            sendMessage(client, formattedMessage);
158            return true;
159        } <- #155-159 else if (message.startsWith("/format"))
160        return false;
161    } <- #123-161 private boolean processCommands(String message, ServerThread ...
162
```

Receiving the room

Checklist Items (1)

#2 ServerThread receiving the payload and passing it to the Room

```
62
63     //UCID:jeo29
```

```java
    //Date:March 30,
    private boolean handleFlipCommand(ServerThread client) {
        int flip = (int) (Math.random() * 2);
        String result = (flip == 0) ? "Heads" : "Tails";
        sendMessage(client, "Coin flip: " + result);
        return true;
    } <- #165-170 private boolean handleFlipCommand(ServerThread client)
///UCID:jeo29
//Date:March 30,
private String formatMessage(String message) {
    // Bold text
    message = message.replaceAll(regex:"\\*(.*?)\\*", replacement:"<b>$1</b>");
    // Italic text
    message = message.replaceAll(regex:"_(.*?)_", replacement:"<i>$1</i>");
    // Red text
    message = message.replaceAll(regex:"#r(.*?)#", replacement:"<span style=\"color:red\">$1</span>");
    // Green text
    message = message.replaceAll(regex:"#g(.*?)#", replacement:"<span style=\"color:green\">$1</span>");
    // Blue text
    message = message.replaceAll(regex:"#b(.*?)#", replacement:"<span style=\"color:blue\">$1</span>");
    // Underline text
    message = message.replaceAll(regex:"#u(.*?)#", replacement:"<u>$1</u>");
    return message;
} <- #173-187 private String formatMessage(String message)



    public void disconnectClient(ServerThread serverThread) {
    }

Run | Debug
public static void main(String[] args) {
    try (Room room = new Room(name:"Sample Room")) {
        String sourceMessage = "Hello *bold* _italic_ #rgreen# #bblue# #uunderline# text";
        String transformedMessage = room.formatMessage(sourceMessage);

        System.out.println("Source Message: " + sourceMessage);
        System.out.println("Transformed Message: " + transformedMessage);
    } <- #195-201 try (Room room = new Room("Sample Room"))
} <- #194-202 public static void main(String[] args)
} <- #10-203 public class Room implements AutoCloseable
```

Room handling the action

Checklist Items (1)

#3 Room handling the flip action correctly

COLLAPSE

Task #2 - Points: 1

Text: Explain the logic in how the flip command is handled and processed and how the message flows from the client, to the Room, and shared with all other users

Response:

The flip command is handled by giving the output of either heads or tails. The message flows from client to room and is shared with all other users because the command is coded to identify the format and the output that is needed by providing the necessary results that will broadcast among all rooms. This allows for an interactive experience.

COLLAPSE

Demonstrate Formatted Messages (4 pts.)

COLLAPSE

Task #1 - Points: 1

Text: Screenshot of Room how the following formatting is processed from a message

Details:

Note: this processing is server-side

Slash commands are not valid solutions for this and will receive 0 credit

Checklist *The checkboxes are for your own tracking

#	Points	Details
#1	1	Room code processing for bold
#2	1	Room code processing for italic
#3	1	Room code processing for underline
#4	1	Room code processing for color (at least R, G, B or support for hex codes)
#5	1	Show each one working individually and one showing a combination of all of the formats and 1 color from the terminal
#6	1	Must not rely on the user typing html characters, but the output can be html characters
#7	1	Code screenshots should include ucid and date comment
#8	1	Each screenshot should be clearly captioned

Task Screenshots:

Gallery Style: Large View

Small Medium Large

```
//UCID:jeo29
//March 30,2024
private String formatMessage(String message) {
    // Bold text
    message = message.replaceAll(regex:"\\*(.*?)\\*", replacement:"<b>$1</b>");
    // Italic text
    message = message.replaceAll(regex:"_(.*?)_", replacement:"<i>$1</i>");
    // Red text
    message = message.replaceAll(regex:"#r(.*?)#", replacement:"<span style=\"color:red\">$1</span>");
    // Green text
    message = message.replaceAll(regex:"#g(.*?)#", replacement:"<span style=\"color:green\">$1</span>");
    // Blue text
    message = message.replaceAll(regex:"#b(.*?)#", replacement:"<span style=\"color:blue\">$1</span>");
    // Underline text
    message = message.replaceAll(regex:"#u(.*?)#", replacement:"<u>$1</u>");
    return message;
} <- #173-187 private String formatMessage(String message)
```

Room code processing for bold Room code processing for italic Room code processing for underline Room code processing for color (at least R, G, B or support for hex codes)

Checklist Items (1)

#1 Room code processing for bold

COLLAPSE

Task #2 - Points: 1

Text: Explain the following

Checklist *The checkboxes are for your own tracking

#	Points	Details
#1	1	Which special characters translate to the desired effect
#2	1	How the logic works that converts the message to its final format

Response:

Bold
_ italicize
with the specific letter for the color that it is assigned to is used

The logic works to convert the message to its final format. For example, #r would translate to the style color red. A simple markup of language then becoming visual style text.

COLLAPSE

Misc (1 pt.)

COLLAPSE

Task #1 - Points: 1

Text: Add the pull request link for the branch

Details:
Note: the link should end with /pull/#

URL #1
https://github.com/jessicaodoom/jeo29-IT114-002/pull/17

COLLAPSE

Task #2 - Points: 1

Text: Talk about any issues or learnings during this assignment

Response:

I had so many issues. I had to reach out to the professor so many times for assistance. I changed my mind about my project multiple times as well. One of my first issues was that I had made way too many changes so nothing was working. The professor then posted a new video which helped me start all over. Then I was having trouble compiling my files. I was running the wrong code and eventually figured that issue out as well. The professor was very helpful with his assistance and videos.

COLLAPSE

Task #3 - Points: 1

Text: WakaTime Screenshot

Details:

Grab a snippet showing the approximate time involved that clearly shows your repository. The duration isn't considered for grading, but there should be some time involved

Task Screenshots:

Gallery Style: Large View

Small Medium Large

WakaTime

End of Assignment