## 1. Connect Message

- **Purpose**: Indicates a player has connected to the server.
- Format: "Connect, username"
- Example: "Connect, Player1"

## 2. Game Message

- Purpose: Communicates the coordinates of the snake's head to synchronize the game state between clients.
- Format: "Game, username, x, y"
- Example: "Game, Player1, 10, 15"

## 3. Message

- Purpose: Handles chat messages between players.
- Format: "Message, username, message"
- Example: "Message, Player1, Hello"
- Example: "Message, Player2, hi"

## 4. System Message

- **Purpose**: Manages system commands and game state changes like starting the game, spawning food, or ending the game.
- Format: "System, username, command, arg1, arg2"
- Commands:
  - sentUsername: "System, username, sentUsername, null, null"
  - startGame: "System, username, startGame, null, null"
  - spawnFood: "System, null, spawnFood, x, y"
  - o foodEaten: "System, null, foodEaten, x, y"
  - clearMap: "System, null, clearMap, null, null"
  - stopGame: "System, username, stopGame, null, null"
  - stopTime: "System, username, stopTime, null, null"

#### • Example:

- Sent username: "System, Player2, sentUsername, null, null"
- Spawn food: "System, null, spawnFood, 5, 10"

### 5. Difficulty Message

- Purpose: Sets the game difficulty.
- Format: "diff, mapFile"
- Example: "diff, Map Easy.csv"

# 6. Theme Message

• **Purpose**: Sets the game theme.

• Format: "theme, themeNumber"

• Example: "theme, 1"

# **Example Use Case**

When a player joins the server and selects a theme and difficulty:

- Player connects: "Connect, Player2"
- 2. Player sends username: "System, Player2, sentUsername, null, null"
- Host sets difficulty: "diff, Map Easy.csv"
- 4. Host sets theme: "theme, 1"
- 5. **Game starts**: "System, Player1, startGame, null, null"

# During the game:

- 1. Player1 moves: "Game, Player1, 12, 14"
- 2. Player2 eats food: "System, null, foodEaten, 5, 10"
- 3. **Spawn new food**: "System, null, spawnFood, 8, 20"
- 4. Message sent: "Message, Player1, I am so good"