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Lab 7

- My network application is a pick-up basketball game simulator

Minimalist Version (Server and Client):

1. Pick-up basketball simulation.

1.1. The system should correctly simulate the assembly of a pick-up team and the result of the game, with a scorecard counting wins.

1.2. The sequence of actions to simulate the game should be:

1. The client selects an undrafted player from the roster.

2. The system then selects a player.

3. Repeat until both teams have 5 players.

Rationale: Basketball is played in teams of 5

4. Once the rosters are assembled, determine the game score randomly and return it.

Rationale: The simulated game is 4-minute quarters, so a realistic final score would be in a 30-60 point range

5. Determine which team won based on the score and increment the win counter for the winner.

6. Prompt the client to play again:

a. If yes, repeat 1-6.

b. If no, return final score count and exit.

Enhanced Version (Multithreading):

1. Pick-up basketball simulation.

1.1. The system should correctly simulate the multiplayer versions of the assembly of a pick-up team and the result of the game, with a scorecard counting wins.

1.2. The sequence of actions to simulate the game should be:

1. Allow both clients to enter a team name.

2. Whoever is the first to connect is player one, second is player two.

3. Player one gets to select first in the draft.

4. Selected player is removed from available players list, that updated list is sent to the other client to choose from.

5. Keep drafting players (repeat step 3) until each roster has 5 players.

Rationale: Basketball is played in teams of 5

6. During the draft, you have to wait for the other client to make their selection. If you want to quit during the draft, type “quit” while it is your turn.

7. Allow the players to chat after the draft is over

8. Determine game score randomly and display it using synchronization.

Rationale: The simulated game is 4-minute quarters, so a realistic final score would be in a 40-60 point range (changed in enhanced version to 40 min)

9. Determine which team won based on score and increment their win counter (which displays the team names entered at the beginning).

10. Prompt both players asking whether or not they want to play again.

11. If at least one player says no to play again, return final score counter and exit.

12. If both say they want to play again, repeat 2-12

Rationale: The team name will stay constant for the full session, so do not ask for it again