

Report

Q2) The Clasico Experience

- The code takes input as specified in the assignment pdf. After that it launches threads for each of the spectators and chances into their respective functions: `person_func` and `team_func`.
- The `person_func`:
 - Each thread sleeps for the corresponding time at which the spectator is scheduled to arrive.
 - Then it checks if it can get a seat in one of the staidums in which it is allowed to. If it can get a seat, it occupies a seat in the stadium otherwise it enters into a conditional timed wait where it waits for a specified time or until a seat is available whichever is earlier.
 - After coming out of conditional timed wait, if it was due to timer expiring, the spectator leaves the stadium. If not, he is allocated a seat in one of the stadiums and then proceeds to see the match.
 - If a person is NEUTRAL fan, then he watches the match for X seconds and signals any person waiting for a seat in the stadium.
 - If a person is a HOME or AWAY fan, he enters into another conditional timed wait where it waits for X seconds or until the team starts performing badly defensively.
 - After coming out of conditional timed wait, the spectator signals any other spectator who is waiting for getting a seat else just increase the stadium capacity.
- The `team_func`:
 - Each thread sleeps for the corresponding time at which the chance is scheduled to arrive.
 - After that, the thread uses a random choice to determine if the team scored a goal or not based on the chance value.
 - If a goal is scored, then a signal is sent to all the spectators who have reached their rage value.

The main program waits on all the spectator threads to return from the `person_func` and this finally ends the simulation.

Bonus:

The bonus part is also implemented in which a person waits till all the persons of his group have left the stadium.