

Name:

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### Question 1 [C01] [10 Points]

Your task is to design the **Tournament** class in Java such that the following tester code produces the expected output. Please note that:

- Only Under-19 and Professional category players are allowed to register.
- Depending on the sport, players will form -  
→ teams of 11 for "Football", → teams of 5 for "Basketball", and  
→ for all other sports, participation is individual (1 player = 1 entry).
- For simplicity, assume that all registered players will participate in all sports. So you only need to count the registered players in each category.

Tester Code	Expected Output
<pre> public class TournamentTester {     public static void main(String[] args) {         Tournament st = new Tournament();         st.tournament = "National Youth Games";         st.showSummary();         System.out.println("#####[1]#####");         st.registerPlayers("Professional", 55);         st.registerPlayers("Under-19", 60);         System.out.println("Total teams: " +             st.getTeams("Basketball"));         System.out.println("#####[2]#####");         st.showSummary();         System.out.println("#####[3]#####");         st.registerPlayers("Under-16", 66);         st.registerPlayers("Professional", 40);         System.out.println("Total teams: " +             st.getTeams("Football"));         System.out.println("Total teams: " +             st.getTeams("Swimming"));         System.out.println("#####[4]#####");         st.showSummary();         System.out.println("#####[5]#####");     } } </pre>	<pre> Tournament name: National Youth Games Player counts: Under-19: 0, Professional: 0 #####[1]##### 55 players registered in Professional 60 players registered in Under-19 In Basketball: 12 teams in Under-19 11 teams in Professional Total teams: 23 #####[2]##### Tournament name: National Youth Games Player counts: Under-19: 60, Professional: 55 #####[3]##### Only allowed to register Under-19 and Professional categories 40 players registered in Professional In Football: 5 teams in Under-19 8 teams in Professional Total teams: 13 In Swimming: 60 teams in Under-19 95 teams in Professional Total teams: 155 #####[4]##### Tournament name: National Youth Games Player counts: Under-19: 60, Professional: 95 #####[5]##### </pre>