King Saud University
College of Computer & Information Science
CSC111 – Project
All Topics Section:
31209

Instructions:

1- Due Date: Saturday ****************

2- Only one or two students for the project.

3- Submit your Project by email only (**********).

4- I will grade only the first submission, if there is a group of two students submits only one copy.

5- Turn in two files (Java) only (Player.java, Team.java); do not send me zip files.

6- The grade is five Marks.

7- Make sure you put your id and name of all students inside both files.

Problem Description

You need to write a program for a system to manage the players in a team. Your system should be able to add players to the team, retrieve a player by a number or name, delete a Player given number and return the total number of players that have the same rank.

Do not change the names given in the UML, you must use the keyword "this" when it is needed, If you change the name, you will get zero for that part.

Player
- name : String - number : int - position : String - rank : String - goals : int - count : int
+ Player() + Player(name : String, position : String, rank : String , goals : int) + print() : void + setters for name, position, rank, goals + getters for name, position, rank, goals, number, count + addGoals(g : int) : void

Number: is the number on the player's shirt, must be 1 - 150, unique.
Count: is the number of players created.
Rank: is the player's level according to age, must be one of the following: "Kids", "Youth", "First" (Ignore case).
Position: is the player position in the field, must be one of the following: "Keeper", "defense", "middle" and "attack" (ignore case).

Player (): calls the other constructor with the following: "NA", "middle","kids",0
addGoals (int g): add number of goals in g to goals.

Team
+ name : String **+ city : String** **+ arrPlayers : player[]** **+ noPlayers : int**
+ Team(name : String , c : String) **+ Team(name : String , c : String , size : int)** **+ searchPlayer(num : int) : int** **+ searchPlayer(n : String) : int** **+ searchPlayer(num : int, rank : String) : int** **+ addPlayer(p : Player) : boolean** **+ deletePlayer(number : int) : boolean** **+ goalsTotal() : int** **+ goalsNonAttack() : int** **+ getKids() : Player[]** **+ numberOfRank(String r) : int** **+ print() : void** **+ printRank(r : String) : void** **+ sort() : void**

Description of Team class:

Team (name: String, c: String): This constructor will create an array of players with size 150.
Team (name: String, c: String, size: int): This constructor will create an array of players, if the size is negative, make it 150.
searchPlayer (num : int): This method receives the number of the Player and return its location or -1 if not found.
searchPlayer (n : String) : This method receives the name of the Player and return its location or -1 if not found.
searchPlayer (num : int, rank : String): This method receives the number of the Player and it's rank then returns its location or -1 if not found.

addPlayer (p : Player): This method adds a new player, the number must be unique, if the player added return true otherwise return false.
deletePlayer (number : int): This method receives the player number and delete this player, if deleted return true otherwise return false.
goalsTotal (): This method returns the total number of goals.
goalsNonAttack ():This method returns the total number of goals for player not attackers.
getKids (): This method return an array of players with rank is Kids
numberOfRank (r : String): This method returns number of players having rank equals to r.
print (): This method prints all information about all players.
printRank (r : String): This method prints all information about players having rank equals to r.
sort (): This method sorts the array in ascending order according to the players numbers.

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