## Challenge 2: Implementing a Sports Team!

In this exercise, you have to perform aggregation between 3 classes.

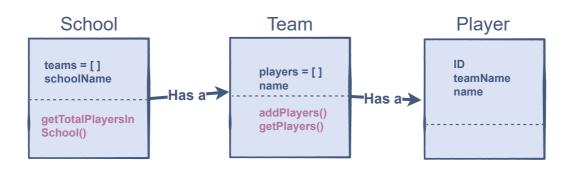
#### WE'LL COVER THE FOLLOWING ^

- Problem Statement
  - Task 1
  - Task 2
  - Task 3
- Coding Exercise

### Problem Statement #

You have to implement **3** classes: School, Team, and Player, such that an instance of a School should contain instances of Team objects. Similarly, a Team object can contain instances of Player class.

Consider this diagram for clarification:



School, Team, Player: Class Representation

You have to implement a School class containing a list of Team objects, and a Team class comprising of a list of Player objects.

#### Task 1#

along should have three properties that will be set using an

- initializer:
  - 1. ID
  - 2. name
  - 3. teamName

#### Task 2 #

- Team class will have *two* properties that will be set using an initializer:
  - 1. name
  - 2. players, a list with player class objects in it.
- It will have *two* methods:
  - 1. addPlayer(), which will add new player objects in the players list.
  - 2. getNumberOfPlayers(), which will return the total number of players
    in the players list.

### Task 3 #

- The School class will contain *two* properties that will be set using an initializer:
  - 1. teams, a list of team class objects
  - 2. name
- It will have two methods:
  - 1. addTeam, which will add new team objects in the teams list.
  - 2. getTotalPlayersInSchool() method counts the total players in all of
    the teams in the School and returns the count!

So, your school should have these players in their respective teams:

Player ID's	Player Names	Teams
1	Harris	Red
2.	Carol	Red

	04101	Roa	
1	Johnny	Blue	
2	Sarah	Blue	

# Coding Exercise #

First, take a close look and design a step-by-step algorithm before trying the implementation. This problem is designed for your practice, so initially try to solve it on your own. If you get stuck, you can always refer to the solution provided in the solution review.

#### Good luck!

```
solution
 🤁 problem
# Player class
                                                                                        class Player:
    pass
    # Complete the implementation
# Team class contains a list of Player
# Objects
class Team:
    pass
   # Complete the implementation
# School class contains a list of Team
# objects.
class School:
    pass
# Complete the implementation
# code to test the implementation
# remove backticks when you want to test the implemenation of your code
p1 = Player("Harris", 1, "Red");
p2 = Player("Carol", 2, "Red");
p3 = Player("Johnny", 1, "Blue");
p4 = Player("Sarah", 2, "Blue");
red_team=Team("Red Team")
red_team.players.append(p1)
red_team.players.append(p2)
```

```
blue_team=Team("Blue Team")
blue_team.players.append(p2)
blue_team.players.append(p3)

mySchool=School("My School")
mySchool.teams.append(red_team)
mySchool.teams.append(blue_team)

print("Total players in my school:", mySchool.getTotalPlayersInSchool())
...
print("Complete the challenge.")
```

The solution is explained in the next lesson!