

Question 2

In this part you will not need to code anything but upload a written answer in your zip file saved as a pdf:

You have been asked to develop a **membership system for a local gym and health club**. The system allows for members to **book into different fitness classes** such as spinning or yoga.

- Membership can be either Junior or Adult.
- Junior members can't book into adult classes and adults can't book junior classes.
- Membership can either be gold, silver or bronze tier.
- State the **name** and **purpose** of **4 classes** that might be part of this system, include **key methods** or **variables** that are intrinsic to the functioning of the membership system.

Answer:

- A Membership tier class
 - Methods:
 - Get membership tier
 - Set membership tier
 - Variables:
 - Public variable
 - Gold
 - Silver
 - Bronze
- Accessibility divide class
 - Methods:
 - Getter Membership's return
 - Setter membership's accessibility
- Age Group divide class
 - Methods:
 - Getter user age
 - Setter age group
 - Variables:
 - Junior
 - Adult
- booking class
 - Methods:
 - Check requirements
 - Get membership return
 - Get age group return
 - Get accessibility divide return
 - Check timetable availability
 - Book class
 - Variables:
 - An array fitness Class
 - contain all the fitness class

The purpose of having a membership tier class and accessibility class is to differentiate different tiers classes based on their subscription and then grant their accessibility to the system. Members will first be put in to 3 tiers: gold, silver and bronze. Then according to their tier class giving them the right access to the system. e.g. gold membership can have 1 to 1 private room and trainer sessions. Silvers can have group training session and bronze can only have the accessibility to all the equipment and limited supports, etc...

These are the key variables that are intrinsic to this class are the different tiers which are going to be Booleans: gold, silver and bronze; a return value by the getter and setter method. We also need an age group divide class with variable Junior and Adult in Boolean return by the getter user age method and setter age group to grant permissions for members to have accessibility to the correct booking schedule avoiding cross booking to the same session with different age group. i.e. only adults can book adult lesson and only junior can book junior lessons. At last, we need a booking class with an array contain all the fitness class and a check requirements method by accessing all the return value from the membership class, age group class and accessibility class. This is to making sure that only certain permission is met then the user can book a correct session with the correct timetable schedule. This gives flexibility later on when booking requirements changes as we can edit all the possible requirements in details. After checking, a check timetable availability method and a booking class method is need to book the session.