FITNESS CENTER

Write a console application for a fitness center to help manage members and membership options. At a minimum, this program should include:

- A class to hold basic details about Members (this class should eventually have at least 2 child classes) and hold the following details at a minimum:

    - id, name

    - an abstract method void checkIn(Club club)

- A minimum of two child classes that represent a Single Club Member and Multi-Club Members (these members can visit various locations using the same membership). The classes should have the following:

    - Single Club Members: a variable that assigns them to a club. The checkIn method throws an exception if it's not their club.

    - Multi-Club Members: a variable that stores their membership points. The checkIn method adds to their membership points.

- A Club class that holds basic details about each fitness club, including at minimum:

    - name, address

- Allow users to:

    - Add members (both kinds), remove members or display member information.

    - Check a particular member in at a particular club. (Call the checkIn method). Display a friendly error message if there is an exception. Don't let it crash the program.

    - Select a member and generate a bill of fees. Include membership points for Multi-Club Members.

- A main class which takes input from the user:

    - Asks a user what they want to do

    - Added members should be given the option to select from at least 4 fitness center locations or have the option to be a multi-club member.

- Write at least 6 unit tests on your code. Avoid anything that takes user input as Unit testing will not work for those. Ask your instructor for ideas on what to test.

- Find the big O notation for the slowest method in your app and note it in a separate text file. Is it possible to make that method more efficient? (If more than one are tied for the slowest pick one)

Optional enhancements:

- (Easy/Medium) Allow new members to receive discounts if they sign up during certain time periods, explore Java libraries that help with date and time.