Coding Bootcamp

Individual Project – PART A

During the development of this project, you need to do the implementation of a private school structure.

Below there is the design that you need to do the implementation upon.

Design of a Private School Structure

Course	
-title	
-stream	
-type	
-start_date	
-end_date	
+getTitle	+setTitle
+getStream	+setStream
+getType	+setType
+getStartDate	+setStartDate
+getEndDate	+setEndDate

Trainer	
-firstName	
-lastName	
-subject	
+getFirstName	+setFirstName
+getLastName	+setLastName

Student	
-firstName	
-lastName	
-dateOfBirth	
-tuitionFees	
+getFirstName	+setFirstName
+getLastName	+setLastName
+getDateOfBirth	
+setDateOfBirth	
+getFees	+setFees

Assignment	
-title	
-description	
-subDateTime	
-oralMark	
-totalMark	
+getTitle	+setTitle
+getDescription	+setDescription
+getSubDateTime	+setSubDateTime
+getOralMark	+setOralMark
+getTotalMark	+setTotalMark

This private school supports multiple courses.

Each course can have multiple trainers, students, and assignments.

For example, the Course CB8 has full time Java and C# and part time Java and C#.

The CB8 course starts on 1/1/2019 and ends at 31/3/2019.

On this CB8 course there are 20 students enrolled and 8 trainers that teach.

During the bootcamp the students need to submit five (5) assignments and two (2) projects, one individual and one team project.

The application that you will build needs to hold in a database multiple courses along with the enrolled students, the trainers that teach the subjects and the

assignments / projects that the students need to submit during the course duration.

On this **PART A**, you are required to build a command prompt (console) application that **does not connect** to an RDBMS (database).

The application must ask from the command prompt to input data to all the entities, and it should give the option to add more than one entry at a time [10 marks].

If the user decides not to type any data, the program should use synthetic data [5 marks].

Also, your program must be able to output the following:

- A list of all the students [5 marks]
- A list of all the trainers [5 marks]
- A list of all the assignments [5 marks]
- A list of all the courses [5 marks]
- All the students per course [10 marks]
  HINT: Make a new class that contains the students within a course
- All the trainers per course [10 marks]
  HINT: As above
- All the assignments per course [10 marks]
  HINT: As above
- All the assignments per student [10 marks]
  HINT: You need to relate a student per course and per assignment
- A list of students that belong to more than one courses [10 marks]

Lastly, the program should ask from the user a date and it should output a list of students who need to submit one or more assignments on the same calendar week as the given date [15 marks].

HINT 1: The calendar week is considered as Monday to Friday for submissions. For example, if the user inputs 15/2/2019 you need to check from Monday 11/2/2019 to Friday 15/2/2019.

If the user inputs 16/2/2019 (Saturday) or 17/2/2019 (Sunday) you need to check from Monday 11/2/2019 to Friday 15/2/2019.

HINT 2:

C#

https://docs.microsoft.com/en-us/dotnet/api/system.datetime.dayofweek?view=netframework-4.7.2

Java

https://docs.oracle.com/javase/8/docs/api/java/time/DayOfWeek.html#getValue--

JavaScript

https://www.npmjs.com/package/date-arithmetic

Python

https://dateutil.readthedocs.io/en/stable/relativedelta.html

Please submit your work within Teams and zip the solution / project to a zipped file named for example,

yourname_individual_part_a.zip