<u>Take Home Assignment</u>

<u>What to do:</u>

Design and implement a solution in .net for a school to manage and view their timetable.

Subjects, teachers and their class assignments are managed in the school database.

1.   Students and teachers should be able to view their timetable.

2.   If a teacher calls in for a leave, system should be able to mark the absence in the system.

3.   System should also have the feature to shuffle the timetable to fill that teacher's subjects with available teachers who are relevant for that particular class.

> Ex: if science teacher calls in for a sick leave and English teacher have a free period in the same time slot, then we should be able to utilize English teacher to cover that period

4.   If no teachers are available with a free period on that day, the notification should be sent to sectional head and principal.

5.   Absent teacher's timetable should be updated to do double periods to cover subjects vacated due to the timetable shift from his/her next available date.

> Ex: If the science teacher calls in for sick leave and English teacher covered it, absent teacher has to teach science in next day in English period as well as his/her own science period.

<u>Expectation</u>

·   Use Web API project to implement the back end

·   You should demonstrate the use of proper logging and exception handling

·   Dependency injection should be used to decouple code

·   The code should include a set of unit tests.

- · The code should be delivered via GitHub.

- · Proper usage of OOP concepts

- · Proper SOLID principles

- · Design patterns should include in the solution

In addition to the above expectation

In the final solution provided by you, the reviewer should not be required to perform any additional setup like creating DBs or install third party applications.

Reviewer should be able to build and run the solution as it is, and he should be able to see the results. You may use Nuget packages which are managed by Visual Studio