**Overview**

This is a coding task for candidates to demonstrate .NET and SQL skills.

**Prerequisites**

To complete this task, you’ll require MS Visual Studio (preferably versions 2019, 2022), MS SQL Server (any version).

**Task**

You have a database representing library – it contains data about users, authors, books and books taken by users. To create a database populated with sample data please use script *CreateDB-Library.sql* provided to you.

Please implement the RESTful API service which exposes 3 endpoints:

1. Endpoint to search books (/api/search). The service can search books using following criteria:
2. by author
3. by text in book’s title or description
4. by user who’s currently holding the book
5. if more than one criterion specified - parameter defining how multiple criterions must be combined – either OR or AND condition.

Results: list of books which meet criteria

1. Endpoint to invert words in Title of the given book (/api/invertwords). Book is identified by ID. When called, service must invert all words in the Title of the book (words are sequences of characters and numbers separated by spaces or other signs like commas, semicolons etc.)

Returns: book object

1. Endpoint to generate report (/api/report) – list of users with total count of books taken and total count of days this user holds all the books.

Returns: User details, Total books he/she is holding, Total days he/she holds them.

Application’s architecture, format of solution and data structures are completely up-to you.

**What’s Expected**

Please provide your code in form of MSVS solution (can be zip-file, link to Github repo etc.). Provide instructions on how to use your API (request formats) in readme file or Postman collection (preferable). If you feel any additional instructions are required to build and run your application – feel free to provide them too.

**Notes**

1. Use this task as an opportunity to demonstrate best of your skills, experience, favorite approaches and practices.
2. If you feel some information is missing or not complete - don’t hesitate to act on assumptions.