Thank you for giving me an opportunity to complete the take-home task on ASP.NET and React. Please take a look is this report accompanying the assignment.

Requirements
The Back-end (REST API) was built using C# and .NET Core, which is similar to .NET Framework. An additional framework used is MVC; therefore, the API requests and responses are in JSON format. The API is currently storing data on SQLite, i.e., app.db file.
The application has multiple pages instead of a fully-responsive single-page one. I tried to build the client-app with React written in TypeScript but was not successful. The application simply loaded a blank page in the browser. Would you please evaluate my work based on the server side?

Use cases
1. **List all blood works**: The index page lists all blood works in a table format including created date, exam date, description, and 'details' to show the details of selected blood work. Users can search for records that matched with the text description and the range of given dates.

2. **Create new blood work entry**: Users can fill data in a form at the end of the index page. Created date, exam date, results date, and "today" are validated against one another prior to allowing the blood work record to be created. One a new entry is added, the list is updated right away. The form remains in the main index page.

3. **Edit blood work entry**: Once clicking the "edit" button specific to certain records in the index table, users will see all the data filled and can change them. Created date, exam date, results date, and "today" are validated against one another prior to allowing the blood work record to be created. After editing, the user will be redirected to the list or index page.

4. **View blood work details**: From the list of all blood works, once clicking the "details" button, the user can see all blood work details. At the bottom of the page, the user can click a button to edit the data and another button to go back to the index page.

5. **Blood work report**: On the main page, users can see one-line graphs showing their blood work information including hemoglobin, hematocrit, white blood cell count, and red blood cell counts.

Extra – identity users can register and login, but the application is currently not restricting access to the blood work records.

Other resources
I used Visual Studio Code as my code editor for building and debugging the web application. I also use Linux operating System, mainly Ubuntu 20.04 LTS. Since the Entity Framework tool does not function on my main operating system, I switched back and forth to Ubuntu 18.04 LTS on my virtual machine to handle the database update after migrations. Lastly, I used some instructions publicly posted online as a GitBook and many websites such as stackoverflow, c-sharpcorner, w3schools, canvasjs and Microsoft documentation. I also used Git version control to revert and reset the development.

Deliverables
The source code and database files are zipped and attached. Please see the instructions below for how to setup and run the application.
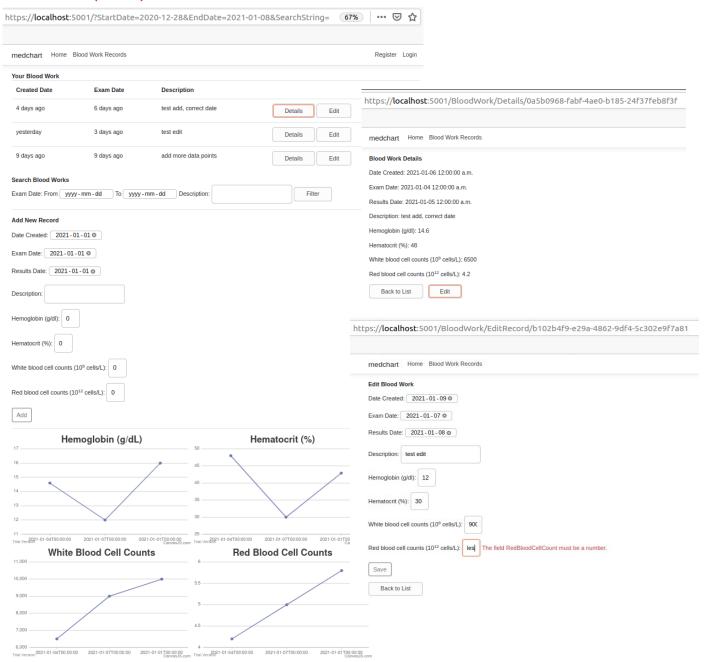
(Server)

How to setup - after unzipping the submitted folder, please run the following commands.

```
cd BloodProfile
dotnet tool install --global dotnet-ef
dotnet add package Microsoft.EntityFrameworkCore.Design
dotnet add package Microsoft.EntityFrameworkCore.SQLite
dotnet add package Microsoft.AspNetCore.Identity.EntityFrameworkCore
dotnet add package Microsoft.AspNetCore.Identity.UI
dotnet add package Humanizer
```

How to run the application – in CLI, please run: `dotnet run`, open a web browser and go to your local host that the application is listening to. For example https:localhost:5001/. The "Blood Work Records" tab on the navigation bar is set to default page.

Screenshots (server)

https://localhost:5001/?StartDate=2020-12-28&EndDate=2021-01-08&SearchString=   67%   ••• ☑ ☆

medchart   Home   Blood Work Records   Register   Login

Your Blood Work

Created Date	Exam Date	Description		
4 days ago	6 days ago	test add, correct date	Details	Edit
yesterday	3 days ago	test edit	Details	Edit
9 days ago	9 days ago	add more data points	Details	Edit

Search Blood Works

Exam Date: From [yyyy - mm - dd] To [yyyy - mm - dd] Description: [   ] [Filter]

Add New Record

Date Created: [2021 - 01 - 01 ⊗]

Exam Date: [2021 - 01 - 01 ⊗]

Results Date: [2021 - 01 - 01 ⊗]

Description: [   ]

Hemoglobin (g/dl): [0]

Hematocrit (%): [0]

White blood cell counts (10^9 cells/L): [0]

Red blood cell counts (10^{12} cells/L): [0]

[Add]

https://localhost:5001/BloodWork/Details/0a5b0968-fabf-4ae0-b185-24f37feb8f3f

medchart   Home   Blood Work Records

Blood Work Details

Date Created: 2021-01-06 12:00:00 a.m.

Exam Date: 2021-01-04 12:00:00 a.m.

Results Date: 2021-01-05 12:00:00 a.m.

Description: test add, correct date

Hemoglobin (g/dl): 14.6

Hematocrit (%): 48

White blood cell counts (10^9 cells/L): 6500

Red blood cell counts (10^{12} cells/L): 4.2

[Back to List]   [Edit]

https://localhost:5001/BloodWork/EditRecord/b102b4f9-e29a-4862-9df4-5c302e9f7a81

medchart   Home   Blood Work Records

Edit Blood Work

Date Created: [2021 - 01 - 09 ⊗]

Exam Date: [2021 - 01 - 07 ⊗]

Results Date: [2021 - 01 - 08 ⊗]

Description: [test edit]

Hemoglobin (g/dl): [12]

Hematocrit (%): [30]

White blood cell counts (10^9 cells/L): [900]

Red blood cell counts (10^{12} cells/L): [les] The field RedBloodCellCount must be a number.

[Save]

[Back to List]

Hemoglobin (g/dL)

17
16
15
14
13
12
11
Trial Version 2021-01-04T00:00:00   2021-01-07T00:00:00   2021-01-01T00:00:00
                                                              CanvasJS.com

Hematocrit (%)

50
45
40
35
30
25
Trial Version 2021-01-04T00:00:00   2021-01-07T00:00:00   2021-01-01T00
                                                              Ca

White Blood Cell Counts

11,000
10,000
9,000
8,000
7,000
6,000
Trial Version 2021-01-04T00:00:00   2021-01-07T00:00:00   2021-01-01T00:00:00
                                                              CanvasJS.com

Red Blood Cell Counts

6
5.5
5
4.5
4
Trial Version 2021-01-04T00:00:00   2021-01-07T00:00:00   2021-01-01T00:00:00
                                                              CanvasJS.com

(Client / front-end)

How to setup - after unzipping the submitted folder, please run the following commands.

```
cd BloodProfile/client-app
npm install
npm install --save react-router
npm i --save-dev @types/react-router-dom
npm i guid-typescript --save
```

How to run the application - (not work), please run: `npm start`