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TEST One  
COMP212  
Winter 2021

This is an open-book test, and you can use any resources (e.g., lecture notes, examples, your assignments, etc.) that you feel helpful. However you are not allowed to communicate with anyone else during the test. Please bear in mind that you are responsible for securing your own code. You will be penalized if another person has your code, or similar with your code.

Instructions: **Be sure to read the following general instructions carefully**:

* This test must be completed individually by all students
* Save your program periodically, just in case your system crashes
* Submit your solution **through the dropbox**. You must name your submission according to the following rule: **studentID(yourlastname)\_Test#1.zip**.

**Rubric**

|  |  |
| --- | --- |
| **Functionality** | **Marks** |
| GUI   1. Layout container (1 mark) 2. DataGrid, ComboBox and others (1 mark) | 2 |
| Data model | 1 |
| Load data from csv file asynchronously   1. Handle the first line of the csv file (2 mark) 2. Handle all other lines correctly (2 mark) 3. Handle each column correctly (2 marks) 4. Use asynchronous programming (3 marks) | 9 |
| After your app launches   1. all covid-19 recovery case data is listed in the DataGrid (2 mark) 2. all countries are listed in the ComboBox (2 mark) | 4 |
| Add new covid-19 recovered case   1. Get user’s input for new covid-19 recovered record (1 mark) 2. Newly added record is displayed in DataGrid (1 mark) 3. Highlight the Newly added record in the DataGrid and make it visible to the user (1 mark) | 3 |
| Overall (code readability, app usability, etc.) | 1 |

**Question [20 marks]**

As we are going through this Covid-19 pandemic, so many people, including ourselves, are tracking the COVID-19 spread. **Johns Hopkins experts in global public health, infectious disease, and emergency preparedness have assembled the data, these raw data are in excel format and can be downloaded** from the [Johns Hopkins GitHub repository](https://github.com/CSSEGISandData/COVID-19/tree/master/csse_covid_19_data/csse_covid_19_daily_reports) (https://github.com/CSSEGISandData/COVID-19)

You are asked to implement a **WPF app** to load covid-19 data (.csv) to the memory, and display in a DataGrid.

If you take a close look at these raw data, you will see that many cells hold zeros. Your app must filter out those zeros while loading data. In other words, only those non-zero values should be stored in the data collection.

Your app should allow user to add new covid-19 recovery record(s). After the “Insert” button has been clicked, the DataGrid automatically scrolls down to the end and the newly added record is highlighted (shown in figure 3)

Graphical user interface, application, table

Description automatically generated

Table

Description automatically generated

Table

Description automatically generated

Figure 3