INSTRUCTIONS

Please read the instructions carefully before doing the questions.

- You can use materials in your computer, notebook and text book.
- You are **NOT allowed** to use any device to share data with others.

Beside the above conditions, students must follow the following requirements**:**

1. **The work must complete by using Visual Studio 2022**
2. **The Framework must be .NET 6.0**
3. **THIS PART IS VERY IMPORTANT, PLEASE READ IT CAREFULLY AND FOLLOW THE INSTRUCTIONS.**
    - You are given a database script (.sql file) in Zip file. Execute the script before doing questions.
    - **You must use the solution in received Given Materials folder.**
    - **You are not allowed to add any libraries via NuGet Package Manager.**
    - You are not allowed to use ObjectDataSource, SqlDataSource.
    - **Just one of above requirements is violated, your work will be considered as invalid.**

On completion, submit the **whole solution folder.**

Before submitting, you can delete the folder [bin] in each project to reduce the size of the solution, to fit the requirements of PEA_Client.

Question 1 (3 points): In this question, you are asked to write a windows form application to create buttons then add its into a form.

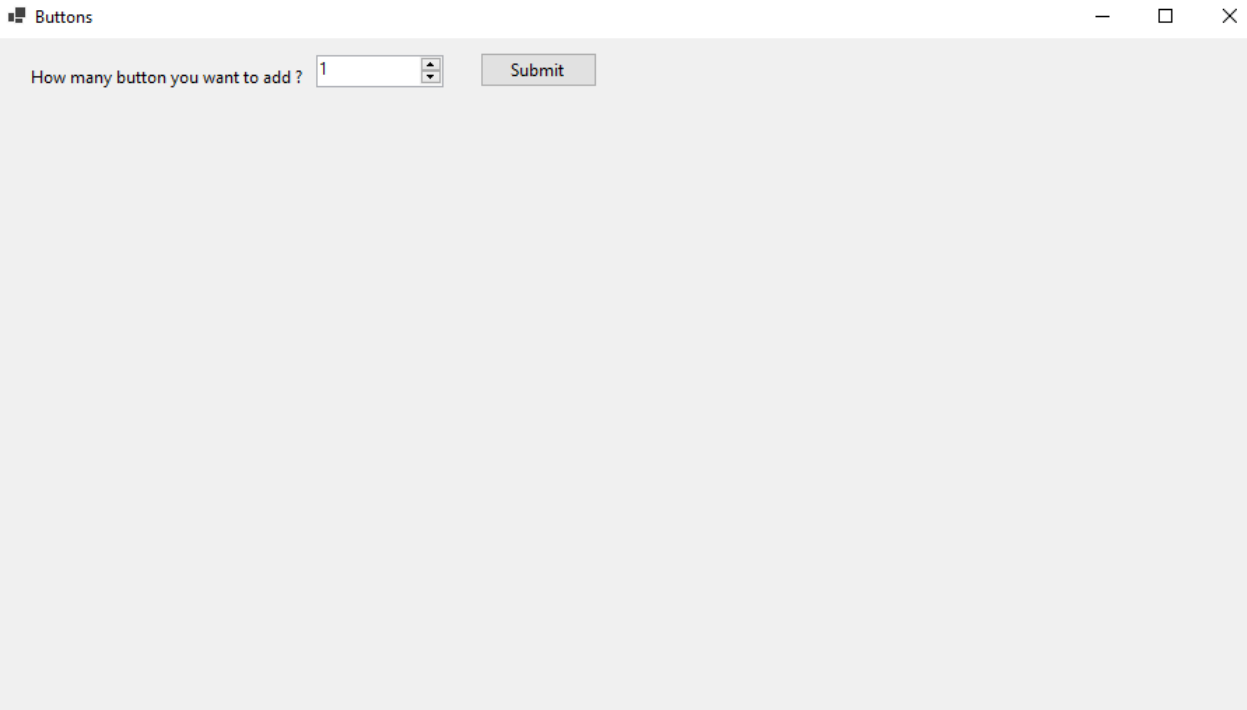


Figure1-Required form

- The form is designed as shown in figure above. The NumbericUpDown has min value is 1 and max value is 10
- **(1points)** When the user input the number enter the NumbericUpDown and click on button [*Submit*]. Create textboxes to input text for buttons with the corresponding number and a button with text "Add Buttons" at the bottom of the form (see Figure 2 below)

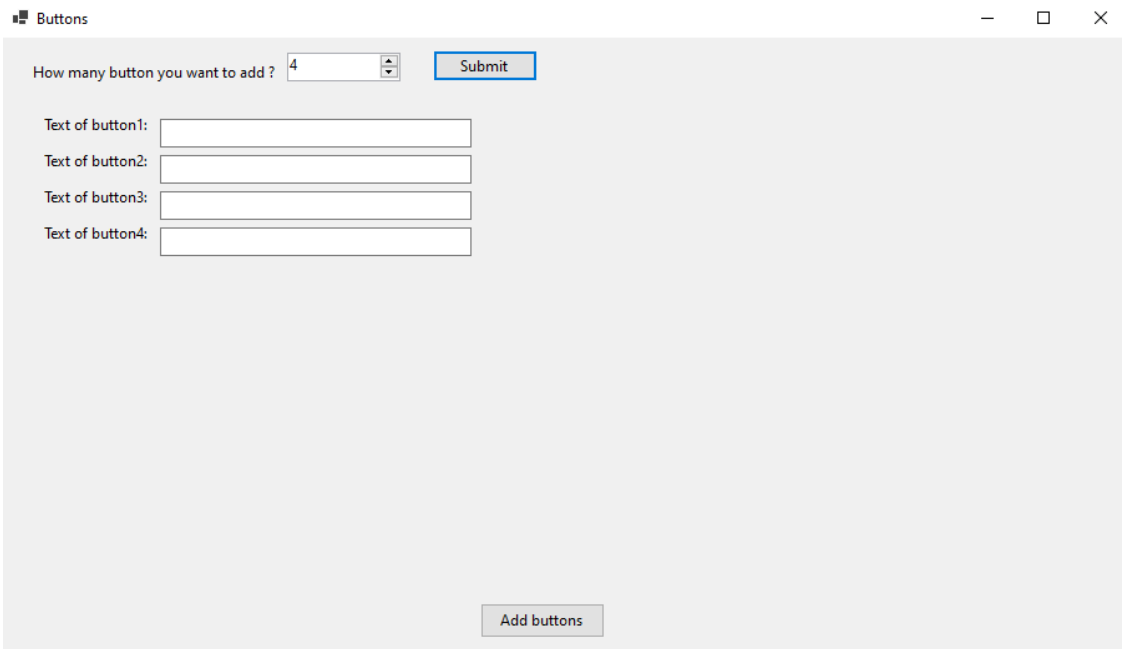


Figure 2: The form after user input number in NumbericUpDown then click on button [Submit]

- **(1.5 points)** When user input text into textboxs then click on button “Add Buttons” . Add Button into a form like figure below

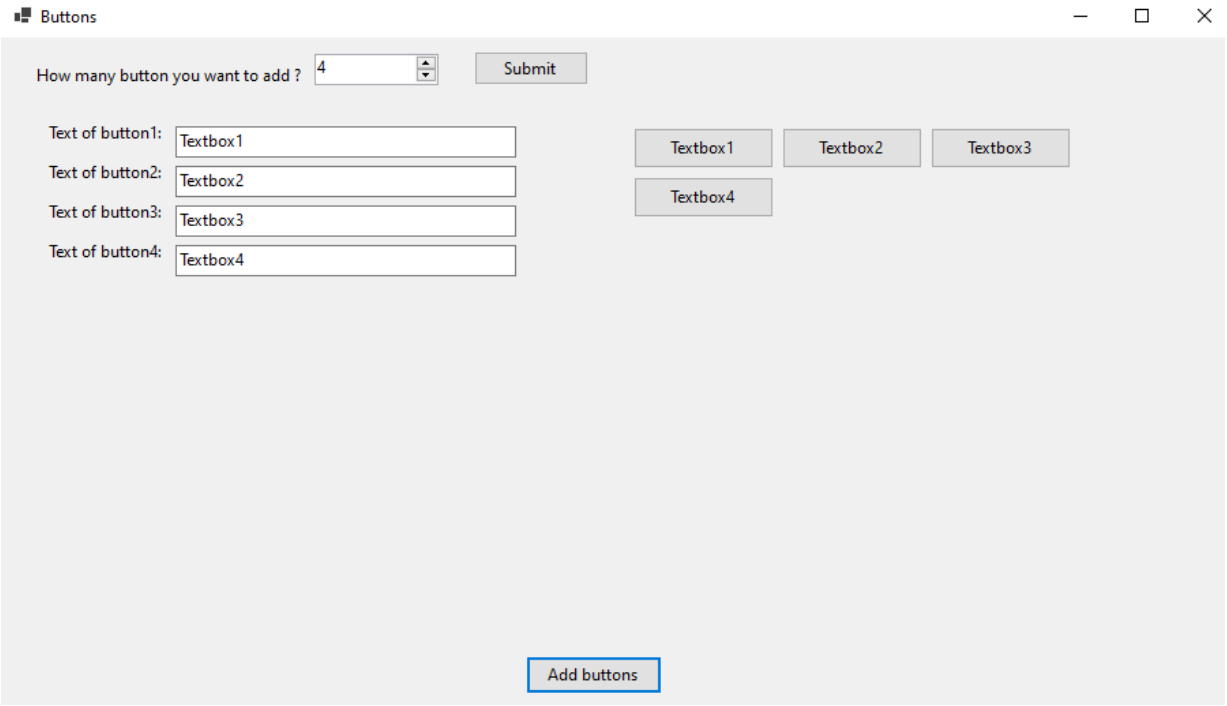


Figure 3: The form after user input text into textboxs then click on button [Add Button]

- **(1 point)** When user clicks on any generated Button show an info Dialog as shown in Figure 4.

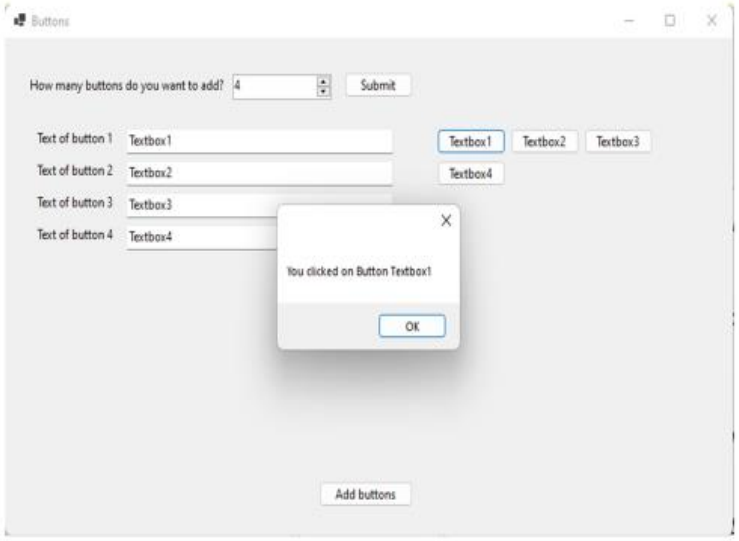


Figure 4 – The dialog was shown when user click on the Textbox [Textbox1]

Question 2:

Note:

- In this question you are required to access database using **Entity Framework Core.**
- 0 will be given to the work that not using database connection string in the file **appsettings.json**

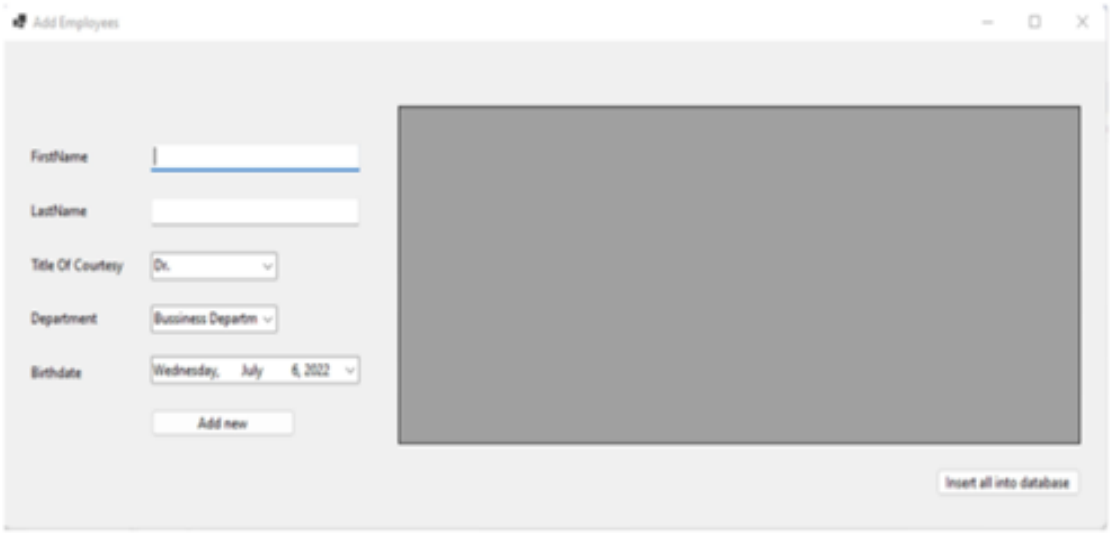


Figure 1 – The required form

- The form is designed as shown in Figure 1.
- **(1.5 point)** Load list of all departments in database into the Combobox *[Department]*. The ComboBox [Title Of Courtesy] has 4 static items: "Dr.", "Mr.", "Mrs.", "Ms." like in Figure 2.

- **(1 point)** After user fills in the controls on the left side of this form and clicks on the Button [Add new], add one row with these data into the DataGridView. (Note that: the data is only added to the DataGridView, not to the database).

  In the DataGridView, you can use the id of department instead of department's name. However, department's name is still accepted.

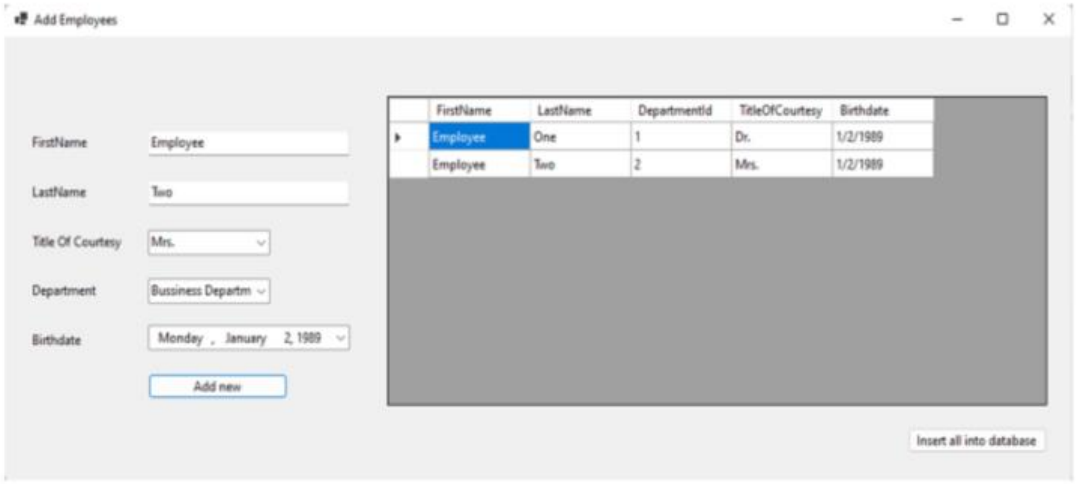
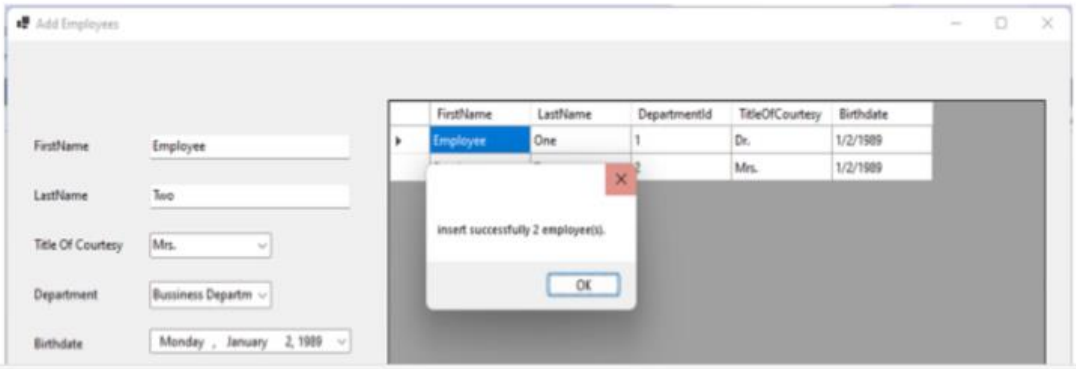


Figure 2 – The form after user add two employees into the DataGridView.

- **(1 point)** When user clicks on the Button *[Insert all into database]*, insert all information in DataGridView into the database as new employees and show the notify if the insert was successfully as shown in Figure 3.



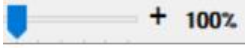


Figure 1 – The required form

Question 3. (3.**5 points**)

You are asked to write a web application that show information about employees in database.

Note:

- In this question you can use **ADO.NET** or **Entity Framework Core.**
- 0 will be given to the work that not using database connection string in the file **appsettings.json**

List of department

Bussiness Department 1
Bussiness Department 2
Addministration Deparment
R&D Department
Operating Department

EmployeeID	EmployeeName	TitleOfCourtesy	Title	Department	BirthDate
1	Nancy Davolio	Ms.	Sales Representative	Bussiness Department 1	12/8/1948
2	Andrew Fuller	Dr.	Vice President, Sales	Operating Department	2/19/1952
3	Janet Leverling	Ms.	Sales Representative	Bussiness Department 1	8/30/1963
4	Margaret Peacock	Mrs.	Sales Representative	Bussiness Department 2	9/19/1937
5	Steven Buchanan	Mr.	Sales Manager	Bussiness Department 1	3/4/1955
6	Michael Suyama	Mr.	Sales Representative	Bussiness Department 2	7/2/1963
7	Robert King	Mr.	Sales Representative	Bussiness Department 1	5/29/1960
8	Laura Callahan	Ms.	Inside Sales Coordinator	Bussiness Department 1	1/9/1958
9	Anne Dodsworth	Ms.	Sales Representative	Bussiness Department 2	1/27/1966

Figure 1 – Required page

- The web application has one page at url **/Employee/List** and is designed as shown in Figure 1.
- (**2 point**) When the page is loaded for the first time, load all departments and all employees of all departments like Figure 1.
- **(1.5 point)** When user click on the link of each Department, the list of employees will be updated to include only employees of selected department. The selected department needs to be highlighted. If the selected department has no employees, display the notify.

  See Figure 2 and 3 for more detail.

localhost:26756/Employee/List/2

List of department

Bussiness Department 1
Bussiness Department 2
Addministration Deparment
R&D Department
Operating Department

EmployeeID	EmployeeName	TitleOfCourtesy	Title	Department	BirthDate
4	Margaret Peacock	Mrs.	Sales Representative	Bussiness Department 2	9/19/1937
6	Michael Suyama	Mr.	Sales Representative	Bussiness Department 2	7/2/1963
9	Anne Dodsworth	Ms.	Sales Representative	Bussiness Department 2	1/27/1966

Figure 2 – List employee of department "Bussniess Department 2"

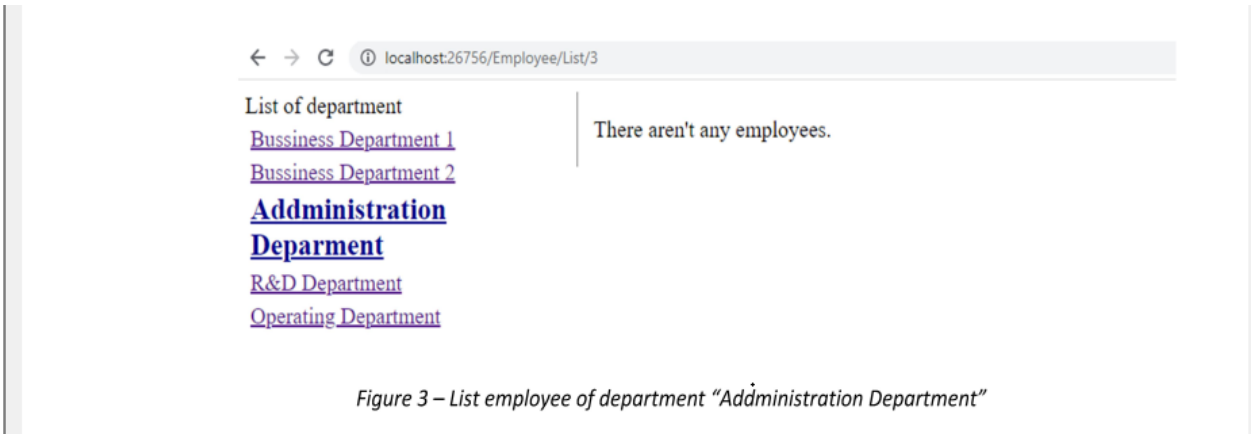


Figure 3 – List employee of department "Addministration Department"