Practice_09 Using Menus ; Passing Data Between Forms

Exercise 1

In a nice little village of North Hungary, there is a pub with a funny name. Now we write a program for this pub.

Our application has more forms, and on the main form, there is a menu bar.

The File menu is typical: you can open a data file containing the list of drinks and their price, and save the booking of pub sales. These files are something like this:

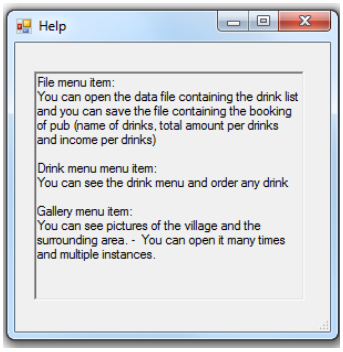
drink_menu.txt:

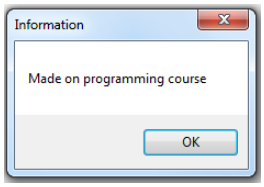
```
Shot of plum brandy;200
Shot of apricot brandy;250
Shot of mixed brandy;180
Pint of beer;150
Glass of beer;120
Glass of spritzer;100
Cafe;120
Mineral water;80
```

booking.txt

```
Shot of plum brandy;3;600
Shot of apricot brandy;0;0
Shot of mixed brandy;0;0
Pint of beer;4;600
Glass of beer;0;0
Glass of spritzer;0;0
Cafe;4;480
Mineral water;1;80
```

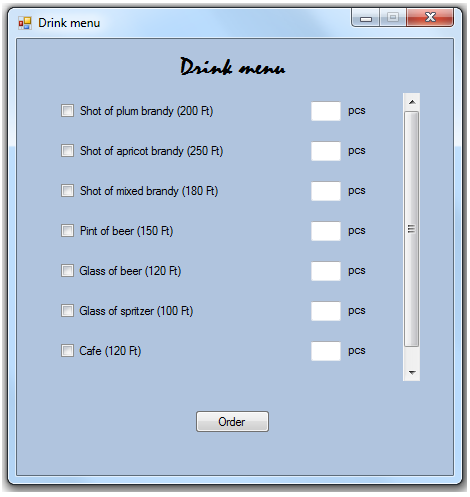
The Help menu helps you, the About gives a little information about you:

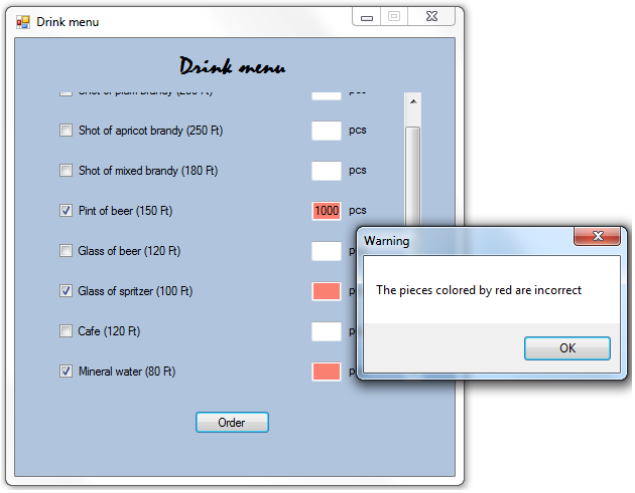




Before opening the data file, the Drink menu and Save menu items are inactive, after reading the file, they will be active.

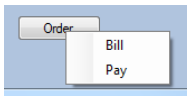
The effect of Drink menu is: You can see the menu of drinks – only one page in a time –, and you can order any drink. As it is a little pub, de maximum number of a drink is 999.



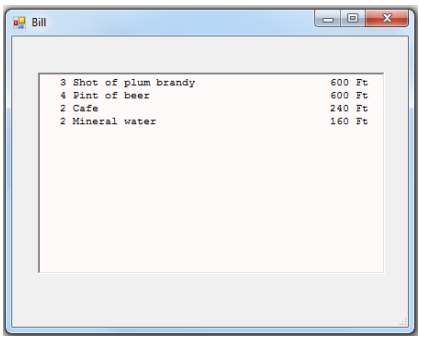


Clicking Order button, you can order. Give error message if there is no any selection or there is any error with pieces belonging to a selected drink. In this case, the background of wrong textboxes becomes red. In case of correctly completed data, the program accepts the ordering, and be the drink deselected and the textbox empty.

Click the right mouse button on Order button a context menu appears:

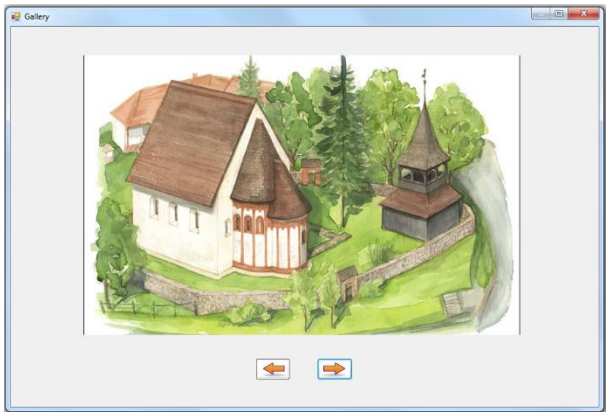


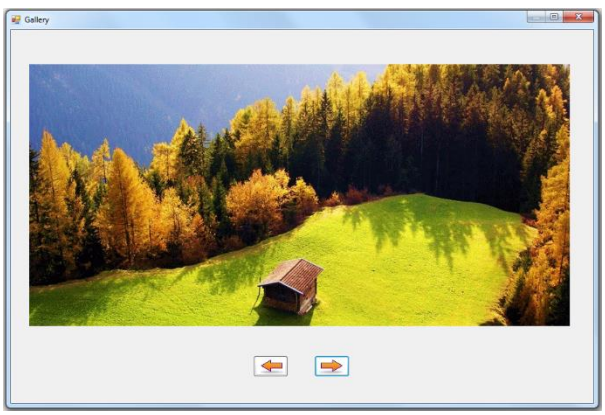
The effect of Bill menu item: (The bill is in a RichTextBox.)



The effect of Pay menu item is: the bill will be empty and the paid items are booked. Now the result is only in the memory, but applying Save menu item, it will be write into a file. (For each drink the name of drink, the total amount of sold items per drink and income per drink.)

If you want to see some pictures about village, chose the Gallery menu item (as many times as you want):

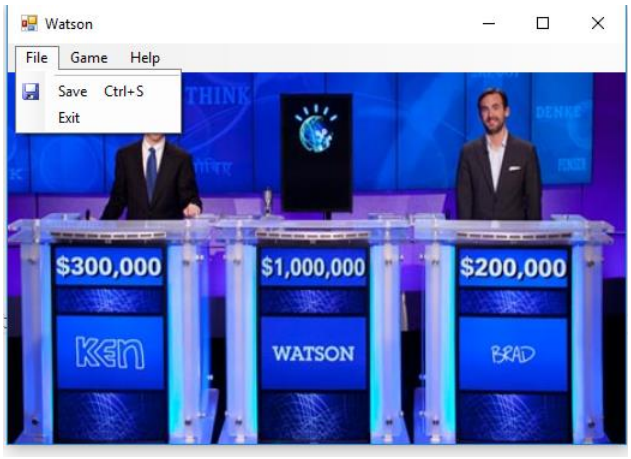




The solution of this exercise will be in the Neptun system.

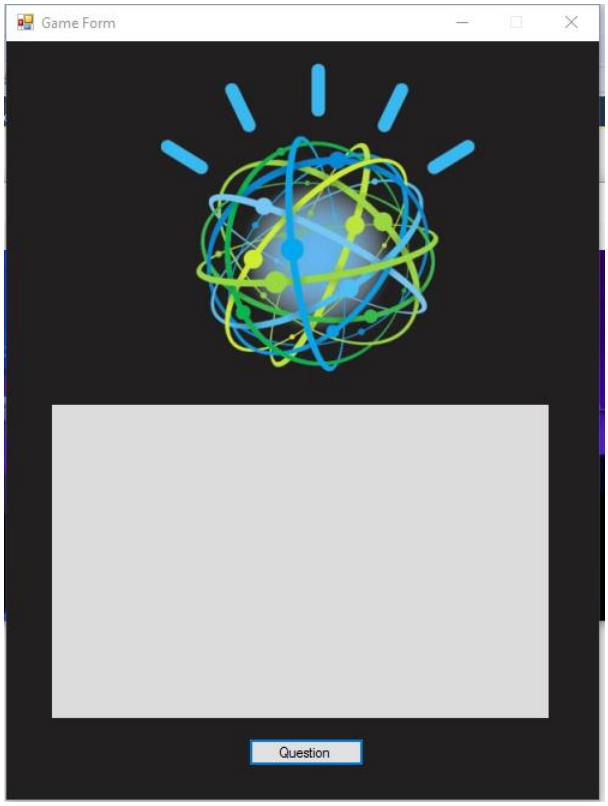
Exercise 2

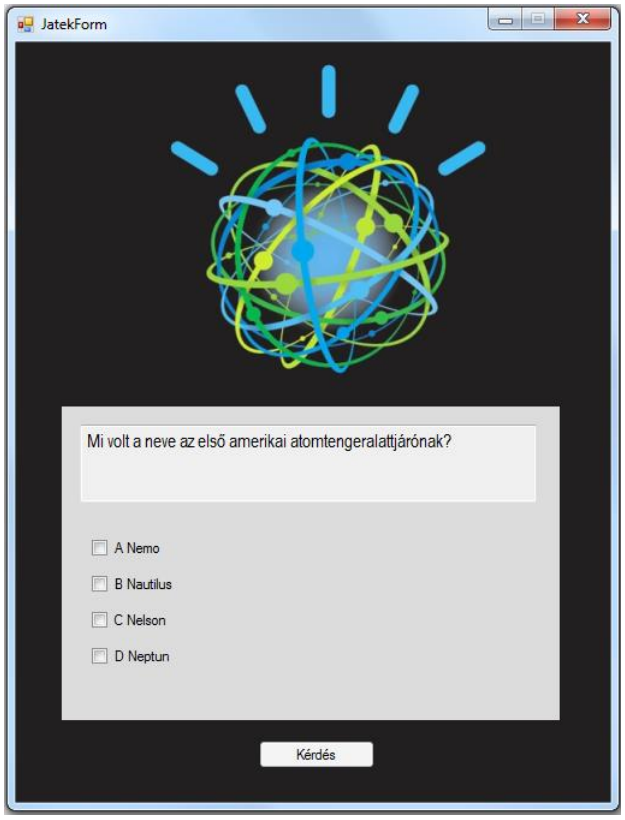
You may have heard about Watson, the artificial intelligence that defeated human competitors in the Jeopardy tournament. The starting 535 * 375 size surface is shown in the figure.



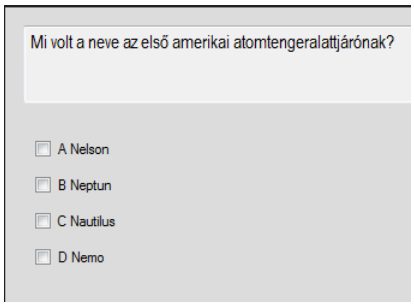
At startup, the question bank is automatically loaded from the *questionbank.txt* file.
Data structure per line:
the question; four possible answers; the number of the correct answer.

By clicking the **Game** menu, the game interface appears. That's what Watson is trying to do, just randomly:



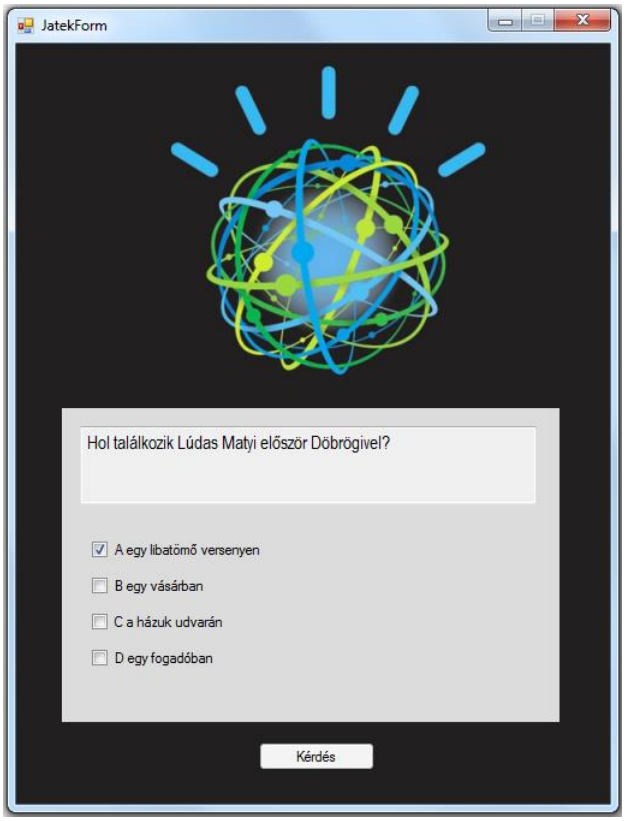


The form (510*670) appears as you can see in the figure on the left side.



Click on the Question button to start learning. (Click(ing) on the Question button begins the learning.) A random question is displayed and answers can be given to it in random order. It can be seen that if the question arises again later, then the answers will probably be in a different order. Make sure every answer is displayed exactly once.

When the Question button is pressed, a timer is started also and Watson has a 'ticking time' to think. (This can be about 2-3 seconds). Meanwhile, the question button is inactive.
If this time expires, it will give you the correct answer –it is not smart yet (it is silly yet) - and randomly selects one of the options. (A checkbox is randomly selected.)



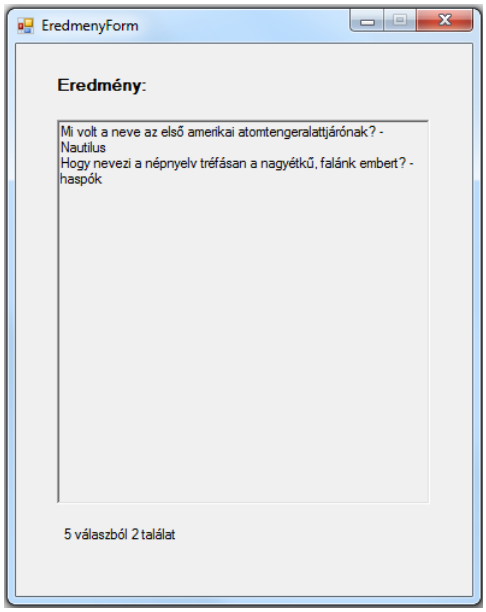
After another ticking time, the question and the answers disappear, and again the upper left game-form is re-opened, and the button is again active.

In this way we can of course ask any question. (In this way, of course, no matter how many questions might ask.)

Although Watson was slightly wrong with the answer in the figure, it obviously can give a good answer. Write out its correct answers in a richtextbox. We also indicate the number of attempts and how many correct answers were given.
The interface containing this result is opened by the contextMenuStrip associated with the Question button.

That is, right click on the Question button:

The effect of the contextMenu selection:



In addition to Exit menu, there are two menu items left.

The Save menu item: Save the correct results in a data file. File structure per line:

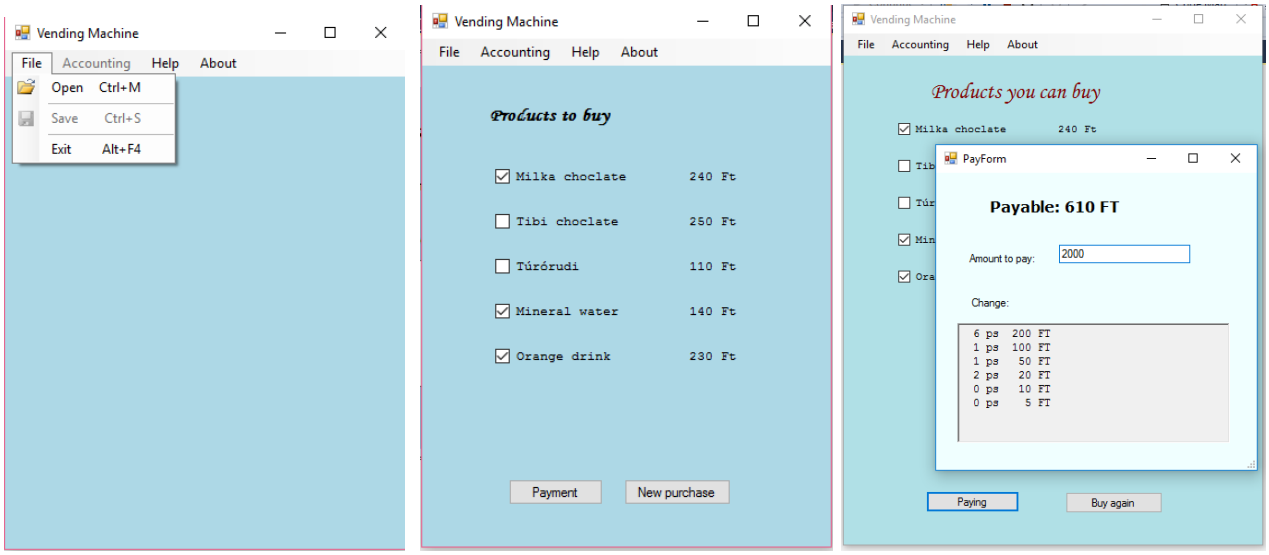
question; correct answer.

Help: the help will pop up another form.

For more information about Watson, visit:
https://www.ibm.com/watson/

Exercise 3

You can buy several sweets and drinks from a vending machine at the same time, but at the same time you can only buy one from each one at a time.
The name, the unit price and the bar code of the goods are in the *products.txt* file.
Create menus to the application which is shown in the next figure. When you choose the File/Open menu the Open File Dialog window will appear. The *products.txt* file data will be load and the following interface will appear (and the buttons become visible).
In the window you can see the product list. Use check boxes to indicate what you want to buy.
In the case of reading data from the file incorrectly the program send an error message. After reading data successfully, the Save and Accounting menus which are so far inactive become active.



The effect of the Payment button the “Payment" window opens. The window displays the amount to be paid. Type into the textbox how much money (coins and banknotes) you put into the vending machine.

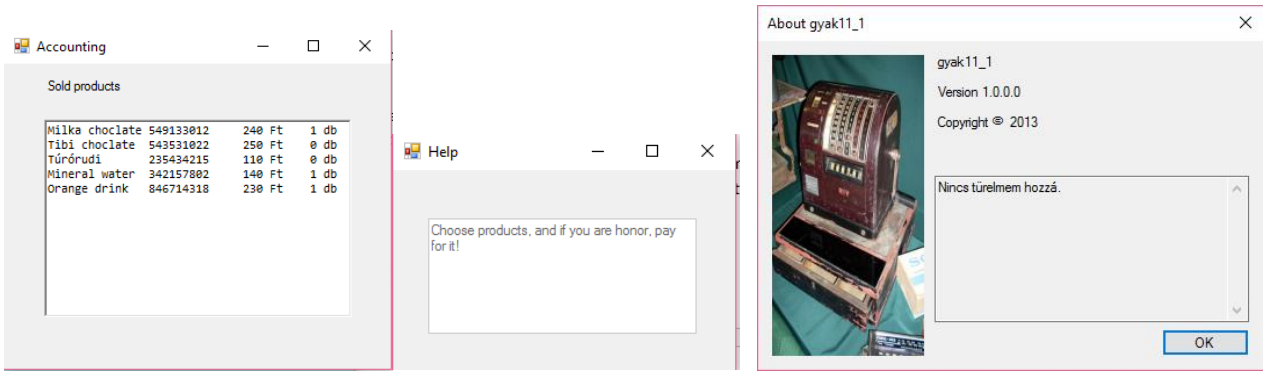
If the Enter key is pressed down, you can neatly aligned in a row below the breakdown by denomination is shown broken down the change amount, provided that you have signed up, and an error message, if the value is low. (Alignment: Courier New, Consolas Font and use the PadRight() method.)

The original shopping window will be only active again, if the Payment window is closed. If you click on the Payment button, you indicate that the buying process is finished. (In the Product class the Sale() method increases the *pieces of sold products* property value.)
If you click the New Purchase button you can deactivate all earlier selection.

Using the Save menu item you can save data into a file. Data structure: name; bar code; pieces of products sold.

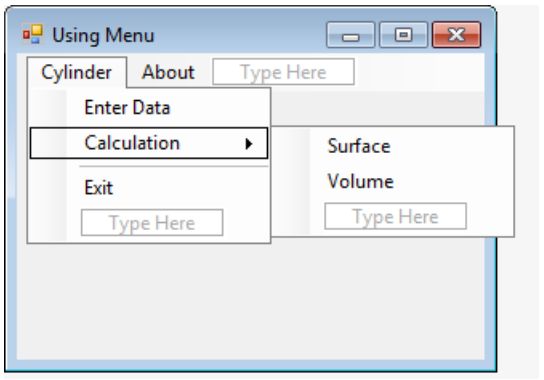
The effect of the Accounting menu the products data are displayed in a new window. (use richTextBox control) In the richTextBox use Consolas Font or Courier New, and PadLeft(), PadRight() methods.

The Help menu will contains some useful information abou the program;
The about menu item contains information about you, about the developer.

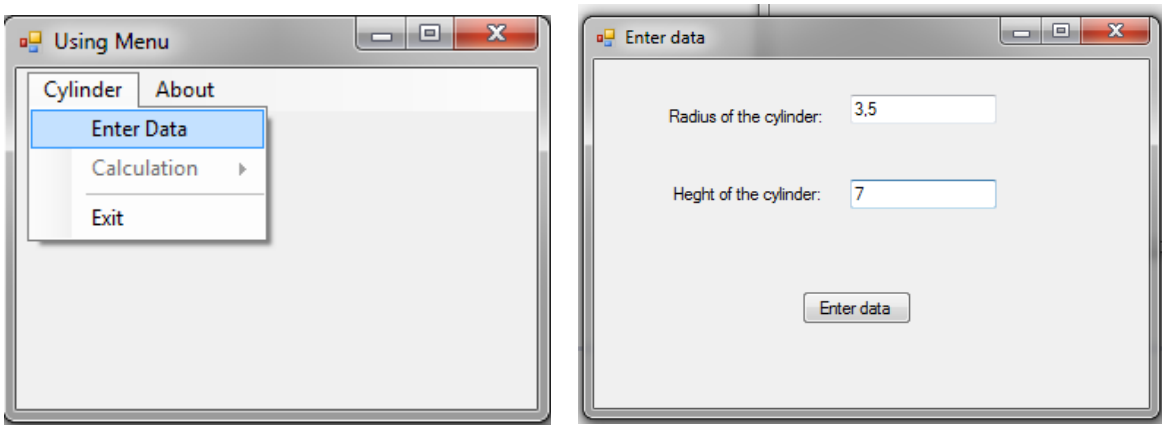


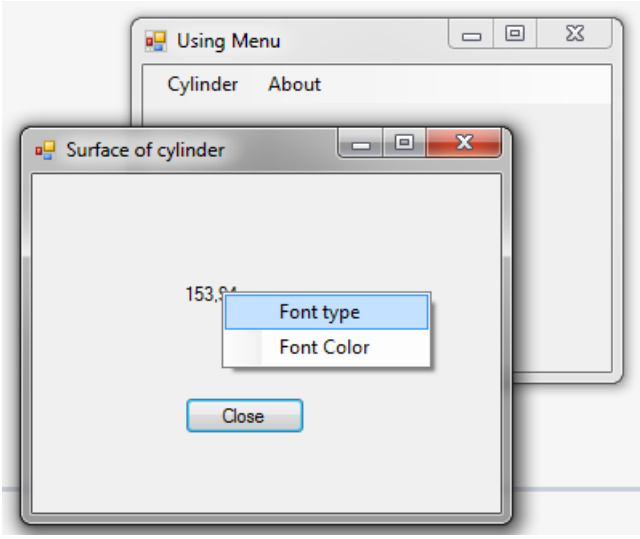
Exrcise 4:

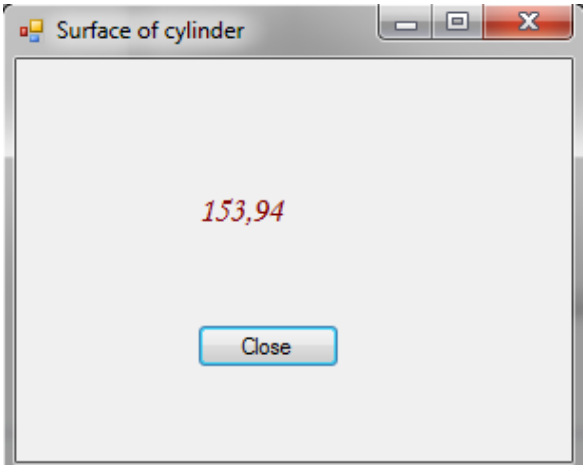
Create a Windows Form application **with menu** to calculate the ***surface*** and ***volume*** of a **cylinder**. Each menu item opens a new window. The Calculation menu should only be available if *Enter Data* is already selected. (You can see the menu structure in the figure.)
When solving this problem, you have to make sure that the data entered in a window (Enter Data Menu) passes to the **Surface** or **Volume** calculator windows. Ensure data entry verification! Create Popup or Context menu to specify the font and color of the results using the appropriate dialog components.



You can see some picture of the running application. If you choose *Enter Data* menu another window appears, and you can enter the radius and the height values of the cylinder.




Using Menu
Cylinder
About
Surface of cylinder
153,94
Font type
Font Color
Close


Surface of cylinder
153,94
Close