

# **Введение в разработку элементов программного обеспечения с использованием данных СРБ**

# Приобретение Microsoft Visual Studio

На сайте компании:

<https://www.visualstudio.com/ru-ru/downloads/download-visual-studio-vs/>

The screenshot shows the Microsoft Visual Studio website in Russian. The browser address bar displays the URL: <https://www.visualstudio.com/ru-ru/downloads/download-visual-studio-vs/>. The page title is "Загружаемые файлы для Visual Studio". The navigation menu includes "Продукты", "Возможности", "Загрузки", "Новости", "Свяжитесь с нами", "Marketplace", and "Документация". A green button labeled "Бесплатная Visual Studio" is visible in the top right. The main content area features three columns:

- Visual Studio Community**: "Интегрированная среда разработки с широкими возможностями для создания потрясающих приложений для Windows, Android и iOS, а также современных веб-приложений и облачных служб." Button: "Скачайте Community бесплатно".
- Visual Studio Enterprise**: "Решение корпоративного уровня с расширенными возможностями для команд, работающих над проектами любого размера или сложности, включая расширенное тестирование и DevOps." Button: "Загрузите пробную версию Enterprise".
- Visual Studio Code**: "Взгляните на редактирование кода по-новому. Разработка и отладка современных облачных и веб-приложений. Code доступен бесплатно. Его можно использовать на вашей любимой платформе — Windows, Mac OS X или Linux." Button: "Загрузить Code для Windows бесплатно".

Each column also includes a link for "дополнительная информация >" and a link to "Сравните выпуски Visual Studio 2015 >". At the bottom of the page, the text "Загружаемые файлы для Visual Studio" is repeated.

# Обзор интерфейса Microsoft Visual Studio

The image shows the Microsoft Visual Studio 2012 Start Page interface in Russian. At the top, a search bar displays "Приложения" (Applications) and "Результаты для 'visual'" (Results for 'visual'). Below this, a list of search results is shown, with "Приложения" (Applications) highlighted in green, showing 8 results, and "Параметры" (Parameters) showing 5 results.

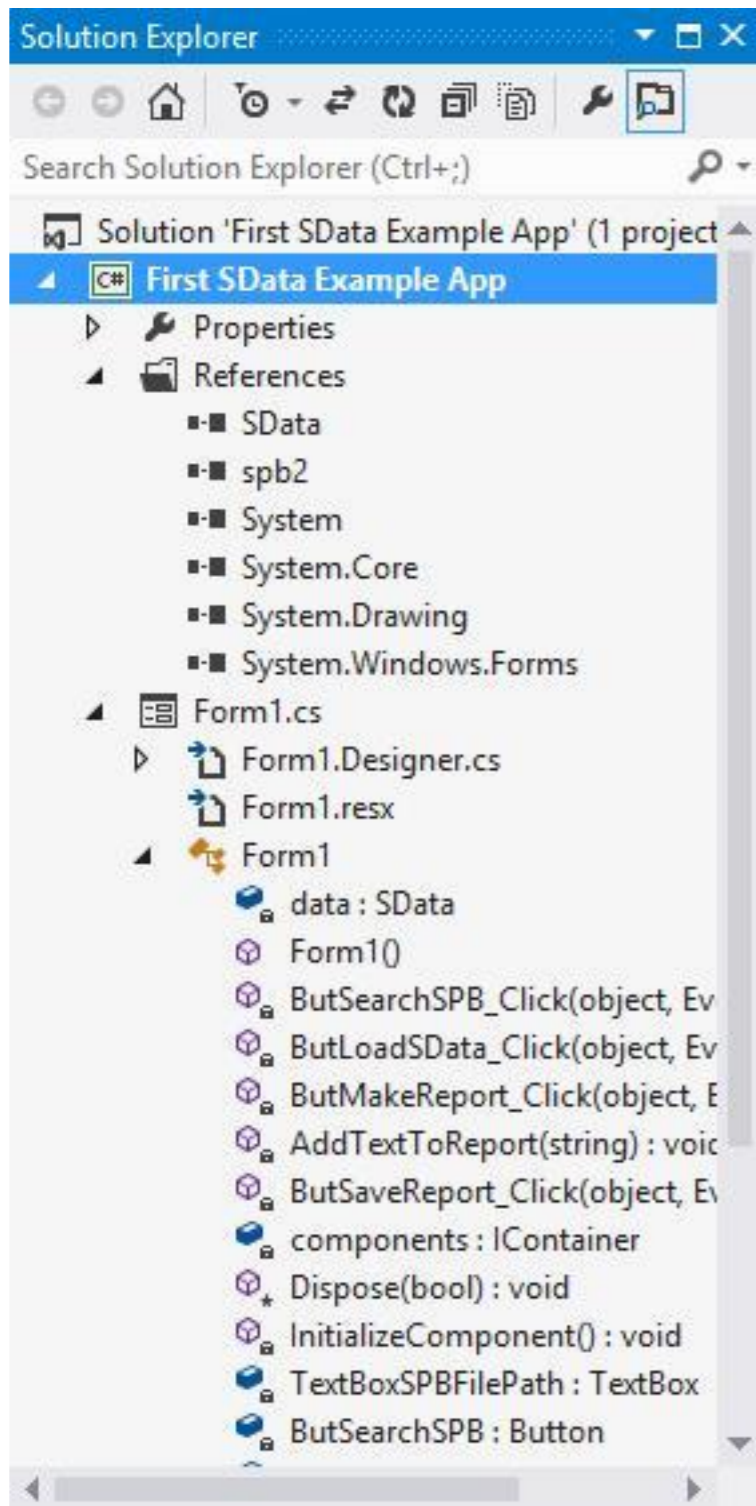
The main window is titled "Start Page - Microsoft Visual Studio" and features a menu bar with options: FILE, EDIT, VIEW, DEBUG, TEAM, SQL, TOOLS, TEST, ANALYZE, DEVEXPRESS, WINDOW, and HELP. Below the menu bar is a toolbar with various icons for file operations and debugging.

The interface is divided into several panes:

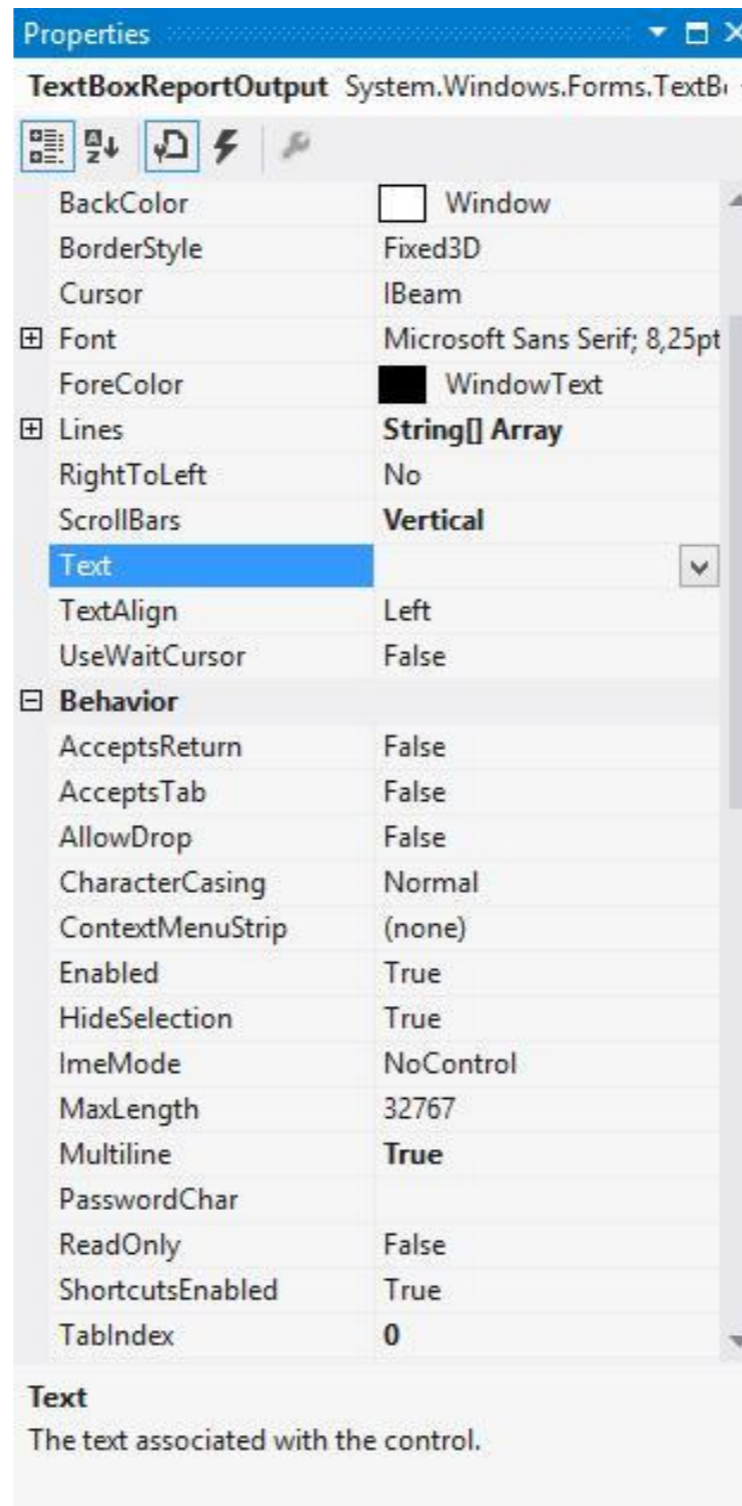
- Toolbox:** Located on the left, it contains a search box and a "General" group. A message states: "There are no usable controls in this group. Drag an item onto this text to add it to the toolbox."
- Task List:** Located below the Toolbox, it shows a list of tasks with columns for "Comments", "D.", "File", and "Line".
- Start Page Content:** The central area displays "Professional 2012" and offers options to "Start" a new project, open an existing project, or connect to a Team Foundation Server. It also lists "Recent" projects, including "spm\_Editor2\_complex\_VS2010", "First SData Example App", "SPTD", "WindowsFormsApplication1", "FortranApplicationExtension1", "Tutorial1", and "FortranApplicationExtension1".
- GET STARTED / LATEST NEWS:** This section provides links to "Welcome", "Windows 8", "Windows Azure", "Web", "Windows Phone", and "Office & SharePoint". It includes sections for "What's New", "Getting Started", "Manage your projects in the cloud", and "Learning Resources".
- Solution Explorer:** Located on the right, it is currently empty.

At the bottom of the window, there are tabs for "Output", "Error List", and "Find Symbol Results". The status bar at the very bottom shows "Ready".

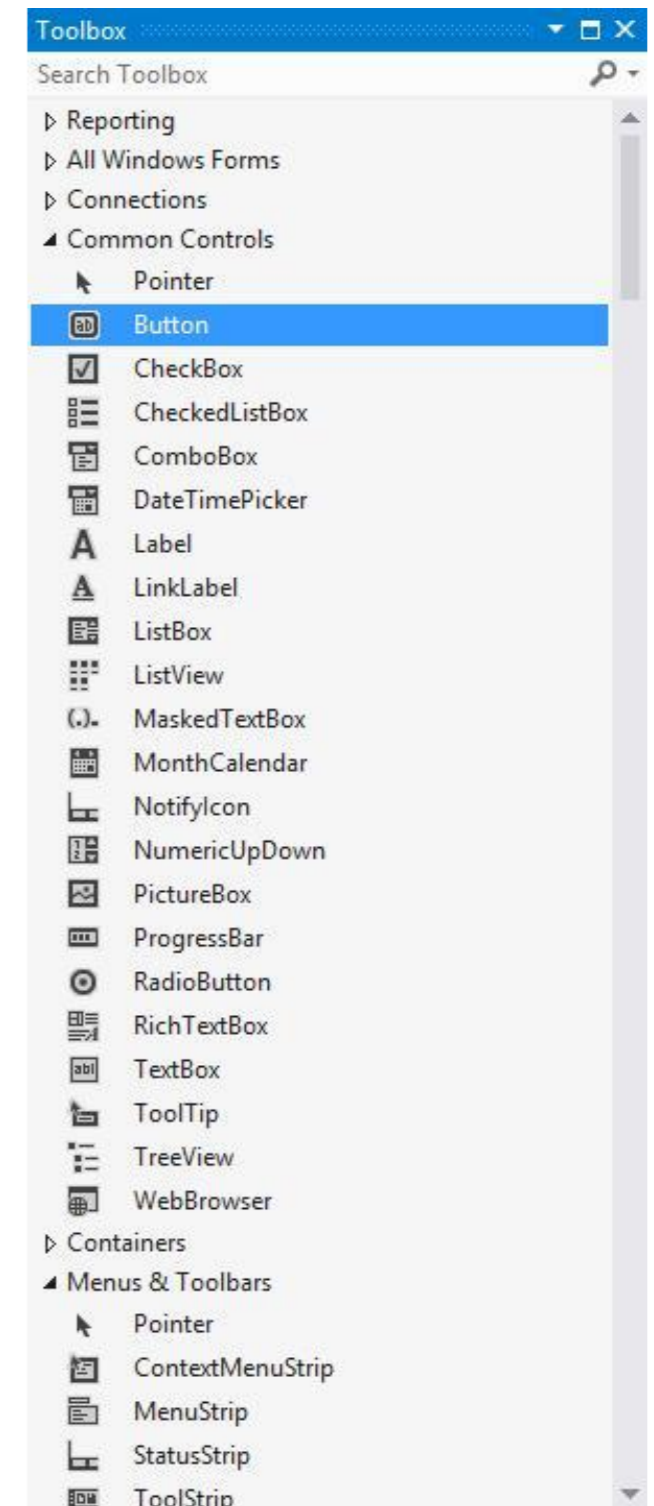
# Обзор интерфейса Microsoft Visual Studio



Обозреватель Решения

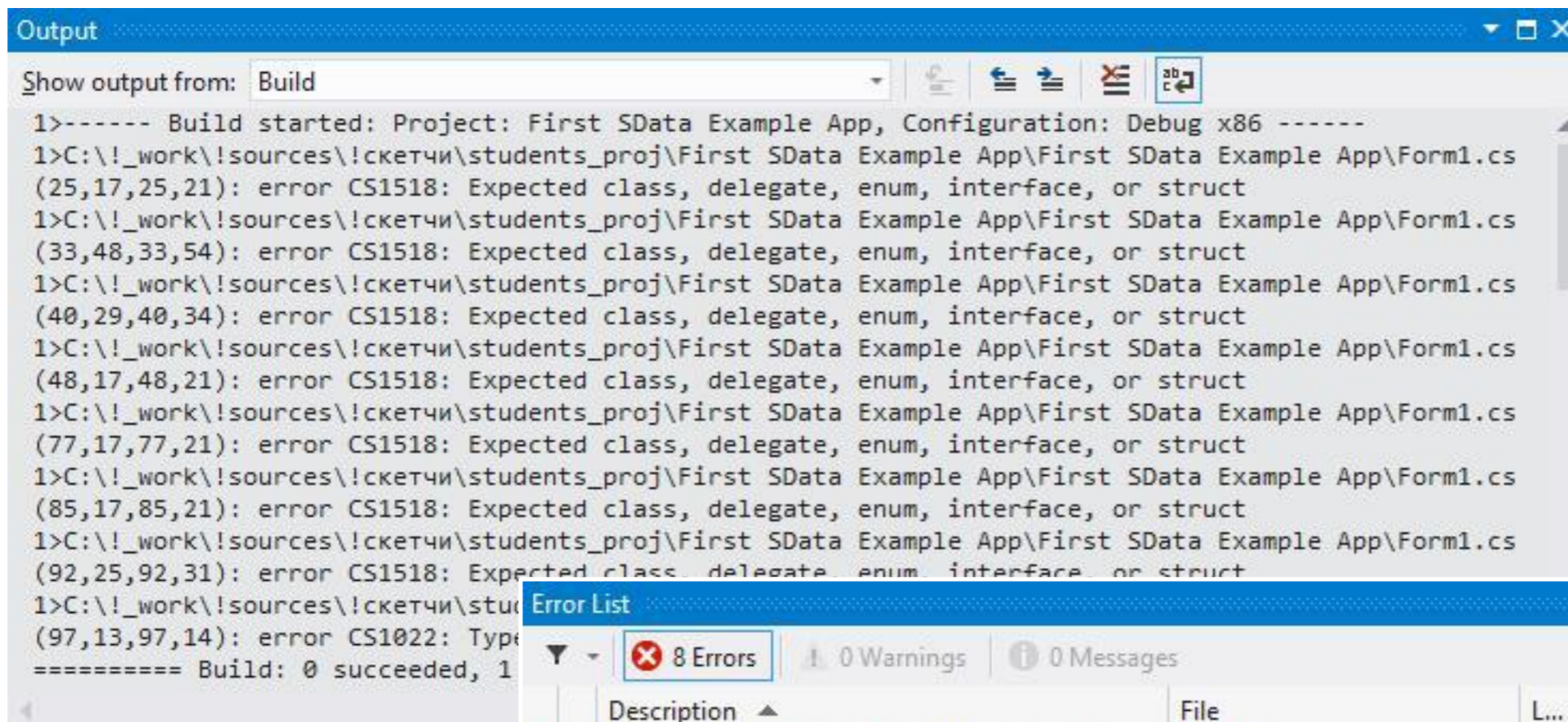


Отображение свойств объектов



Менеджер визуальных компонентов

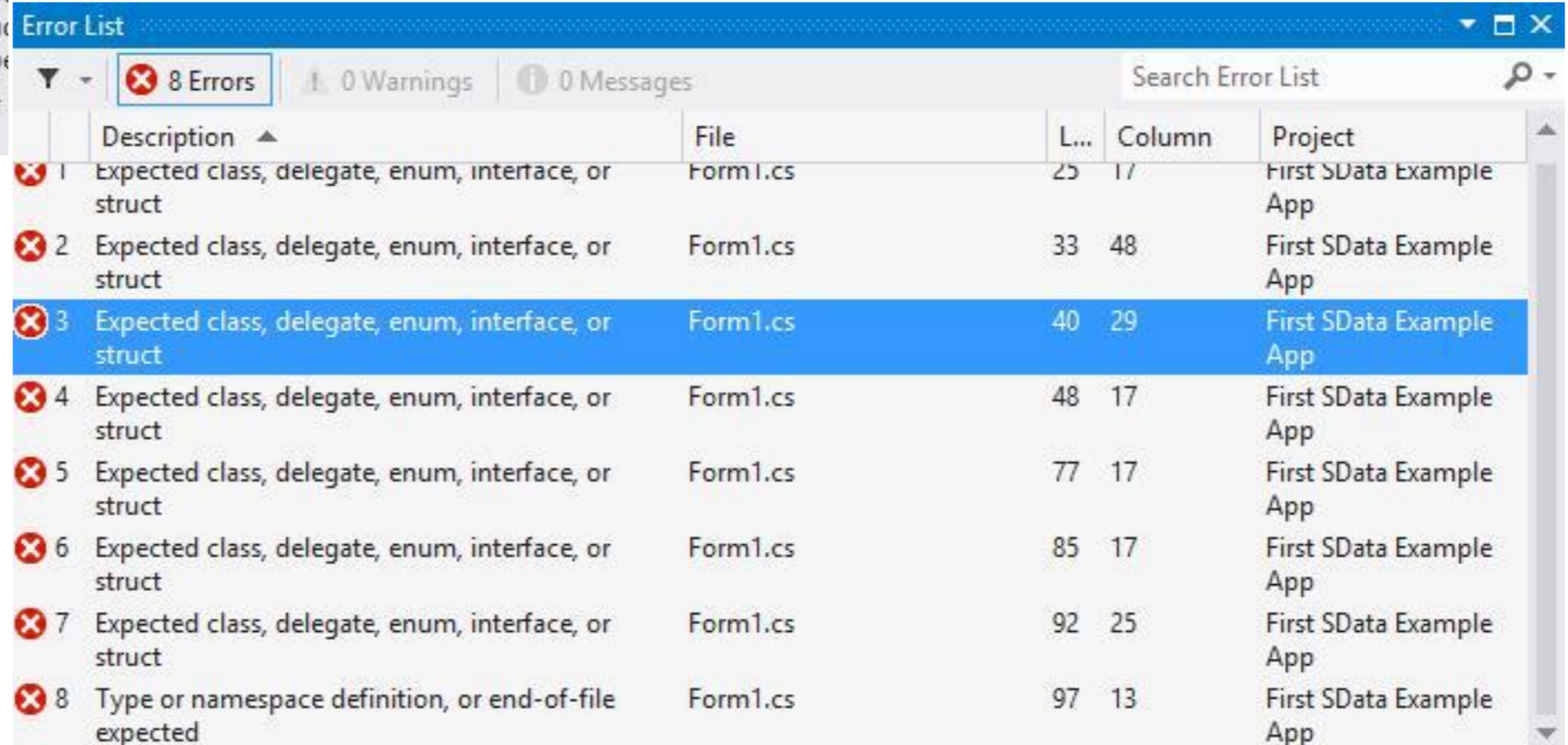
# Обзор интерфейса Microsoft Visual Studio



Output window showing build output for a project named "First SData Example App". The output indicates that the build failed due to multiple errors (CS1518) and one warning (CS1022). The errors are related to expected class, delegate, enum, interface, or struct definitions. The warning is related to a type or namespace definition, or end-of-file expected.

```
1>----- Build started: Project: First SData Example App, Configuration: Debug x86 -----
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(25,17,25,21): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(33,48,33,54): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(40,29,40,34): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(48,17,48,21): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(77,17,77,21): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(85,17,85,21): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(92,25,92,31): error CS1518: Expected class, delegate, enum, interface, or struct
1>C:\!_work\!sources\!скетчи\students_proj\First SData Example App\First SData Example App\Form1.cs
(97,13,97,14): error CS1022: Type or namespace definition, or end-of-file expected
===== Build: 0 succeeded, 1 failed, 0 cancelled =====
```

Панель вывода  
общих сообщений

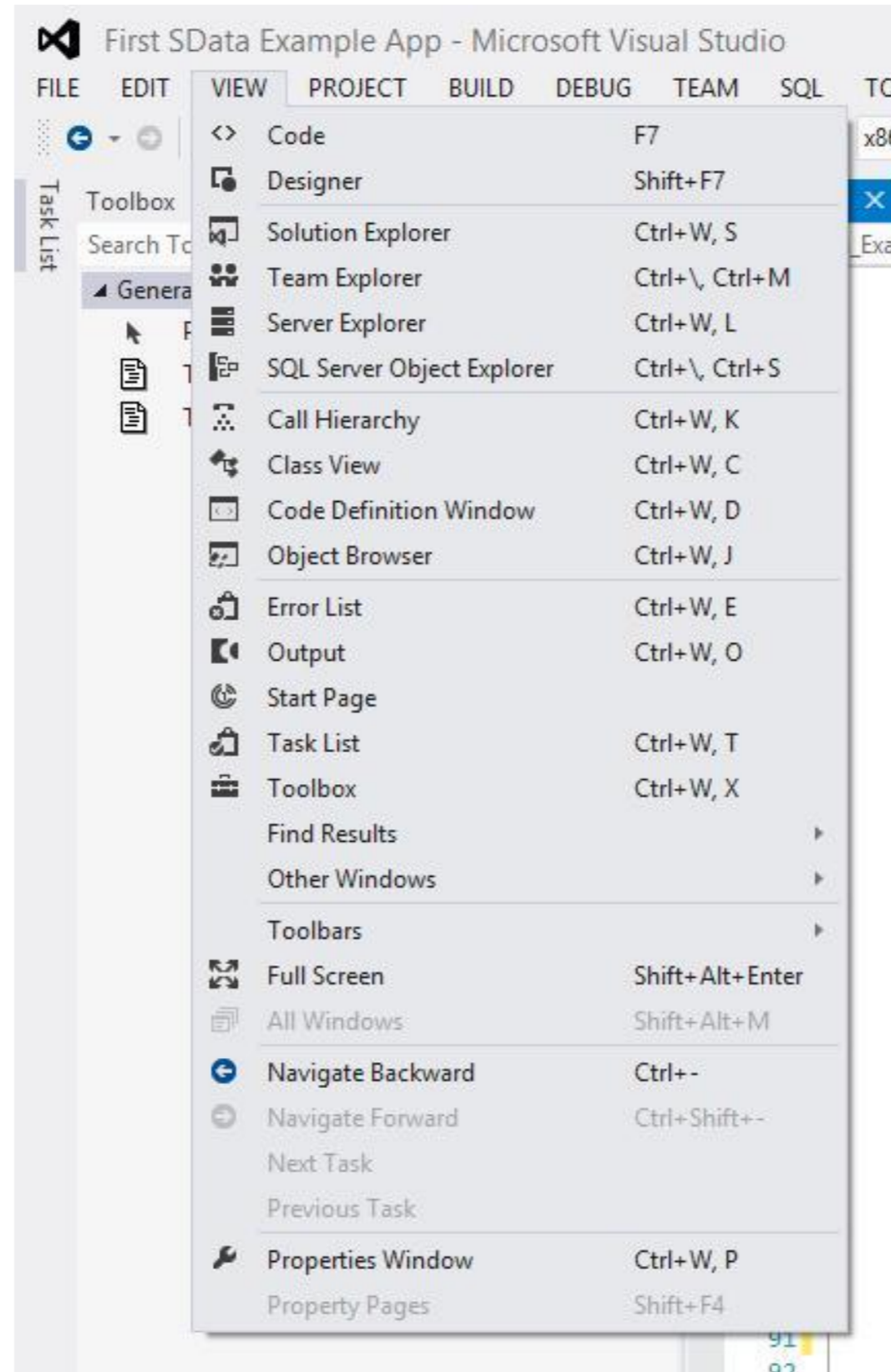


Error List window showing 8 errors. The errors are listed in a table with columns for Description, File, Line, Column, and Project.

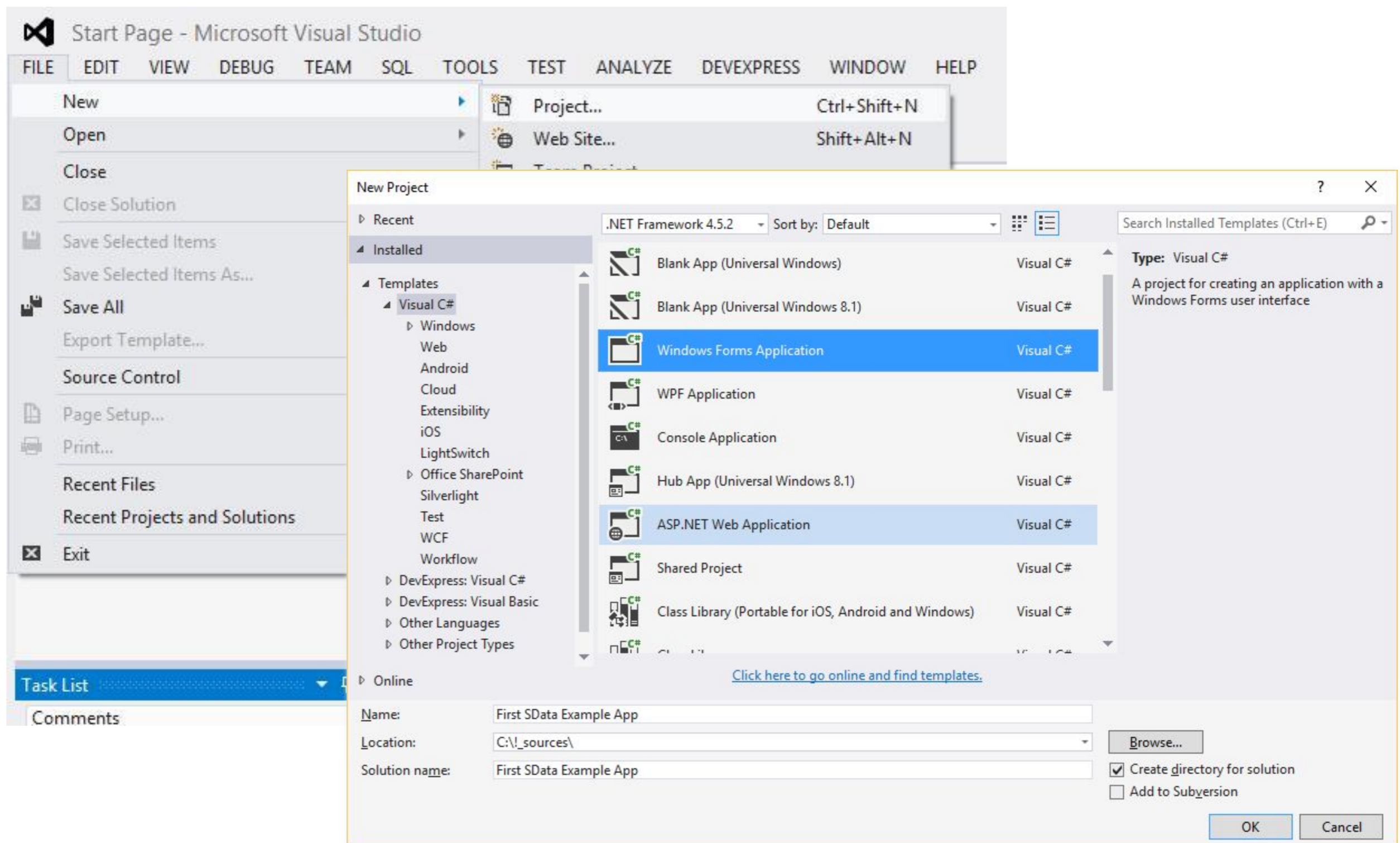
	Description	File	Line	Column	Project
1	Expected class, delegate, enum, interface, or struct	Form1.cs	25	17	First SData Example App
2	Expected class, delegate, enum, interface, or struct	Form1.cs	33	48	First SData Example App
3	Expected class, delegate, enum, interface, or struct	Form1.cs	40	29	First SData Example App
4	Expected class, delegate, enum, interface, or struct	Form1.cs	48	17	First SData Example App
5	Expected class, delegate, enum, interface, or struct	Form1.cs	77	17	First SData Example App
6	Expected class, delegate, enum, interface, or struct	Form1.cs	85	17	First SData Example App
7	Expected class, delegate, enum, interface, or struct	Form1.cs	92	25	First SData Example App
8	Type or namespace definition, or end-of-file expected	Form1.cs	97	13	First SData Example App

Панель вывода  
сообщений об ошибках  
и предупреждениях

# Обзор интерфейса Microsoft Visual Studio

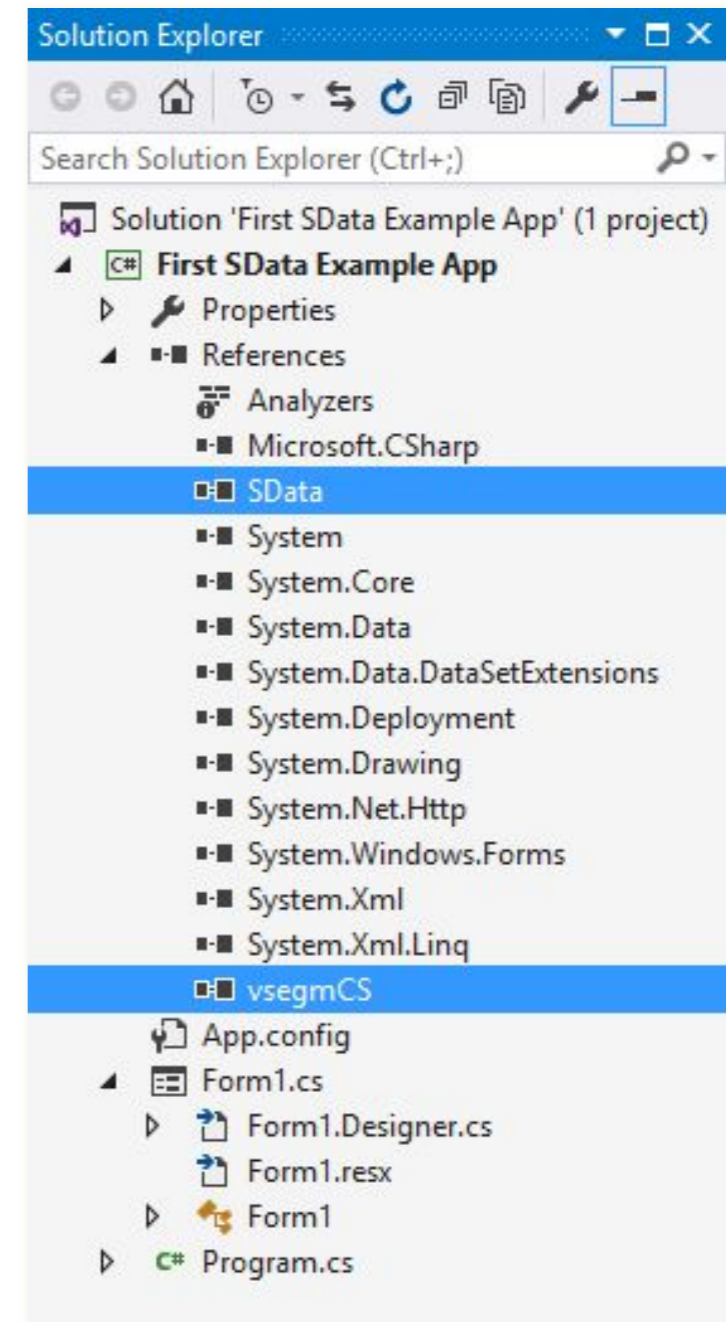
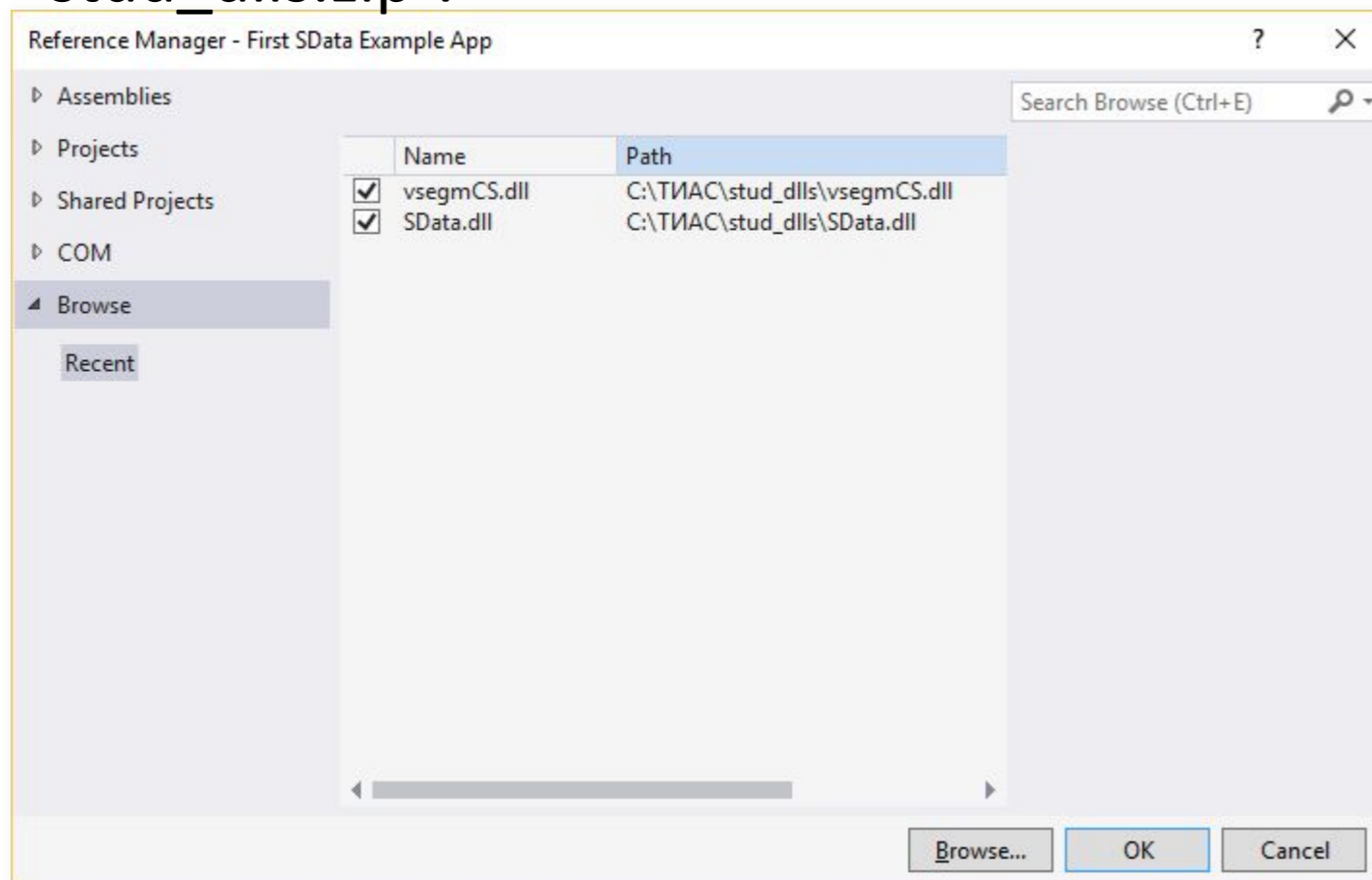


# Создание решения с одним проектом



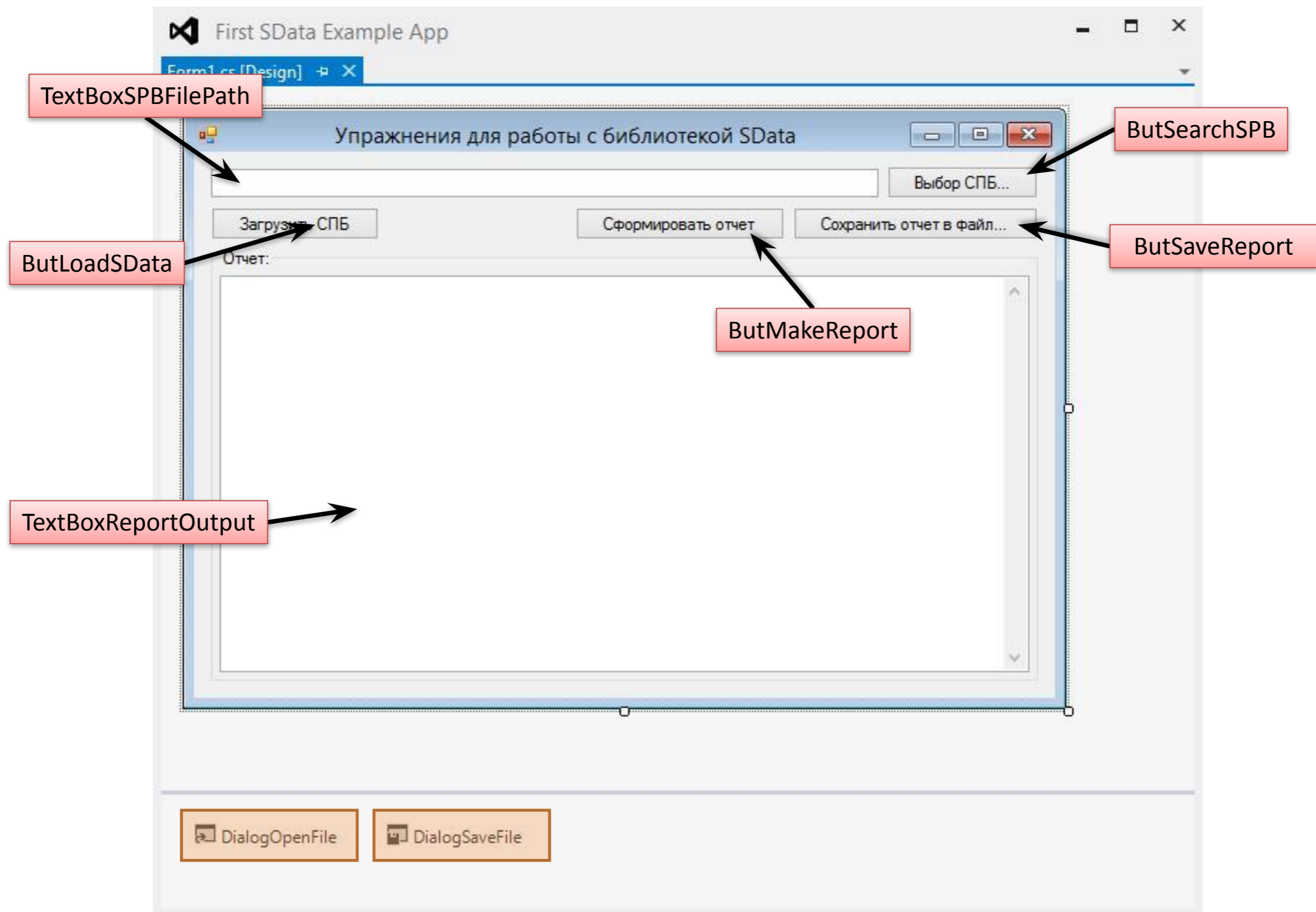
# Создание решения с одним проектом

Необходимо добавить в проект ссылки (References) на две динамические библиотеки “Sdata” и “vsegmCS” из архива “stud\_dlls.zip”.

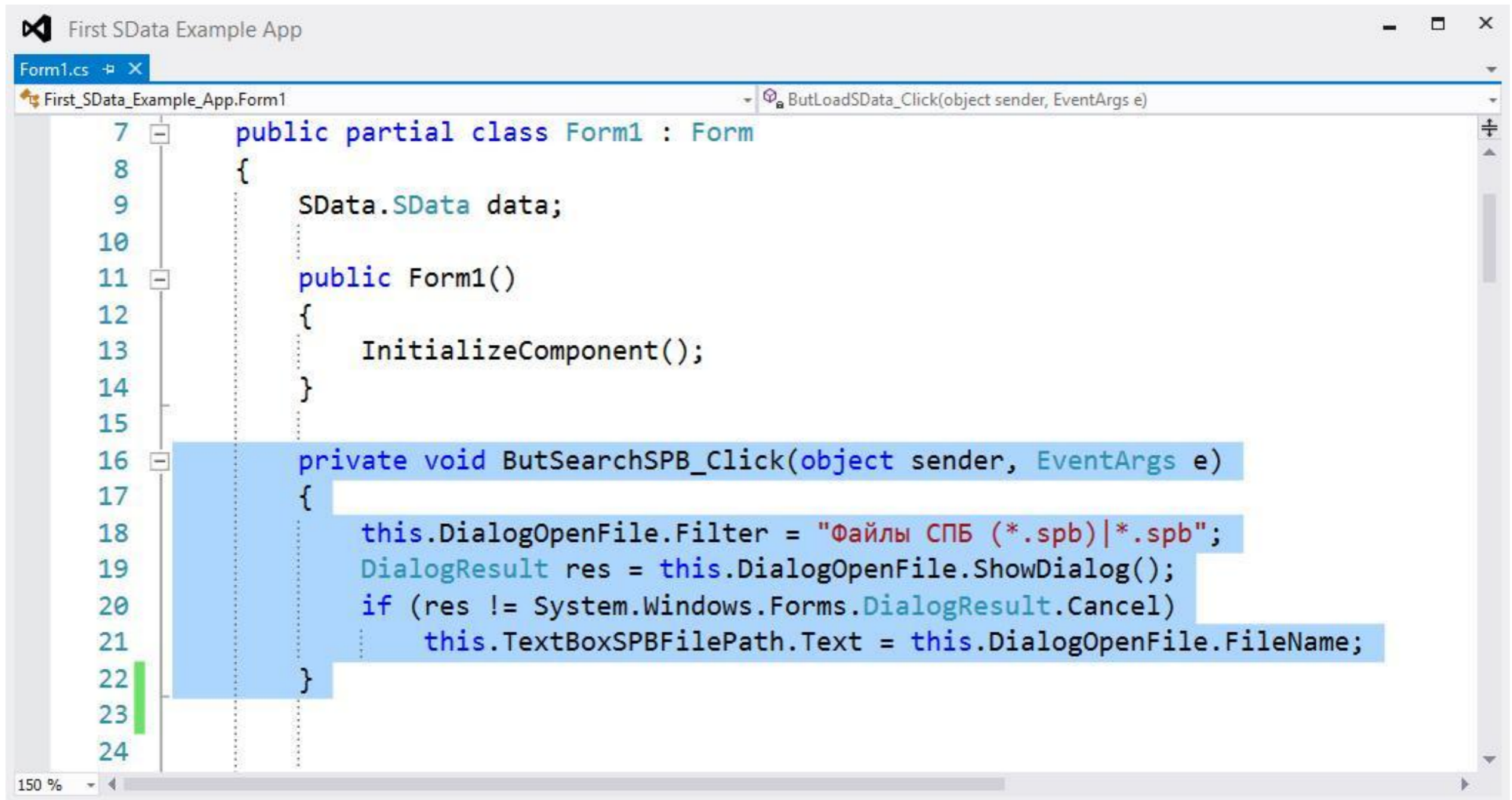




# Проектирование формы диалога в приложении



# Метод обработки события в момент нажатия кнопки ButSearchSPB



```
7 public partial class Form1 : Form
8 {
9     SData.SData data;
10
11     public Form1()
12     {
13         InitializeComponent();
14     }
15
16     private void ButSearchSPB_Click(object sender, EventArgs e)
17     {
18         this.DialogOpenFile.Filter = "Файлы СПБ (*.spb)|*.spb";
19         DialogResult res = this.DialogOpenFile.ShowDialog();
20         if (res != System.Windows.Forms.DialogResult.Cancel)
21             this.TextBoxSPBFilePath.Text = this.DialogOpenFile.FileName;
22     }
23
24
```

# Метод обработки события в момент нажатия кнопки ButLoadSData

```
First SData Example App - Form1.cs
Form1.cs
First_SData_Example_App.Form1
ButMakeReport_Click(object sender, EventArgs e)
25 private void ButLoadSData_Click(object sender, EventArgs e)
26 {
27     if (!System.ComponentModel.SyntaxCheck.CheckRootedPath(this.TextBoxSPBFilePath.Text))
28     {
29         MessageBox.Show("Не правильно задан путь к файлу", "Ошибка");
30         return;
31     }
32
33     System.IO.FileInfo file_info = new System.IO.FileInfo(this.TextBoxSPBFilePath.Text);
34     if (!file_info.Exists)
35     {
36         MessageBox.Show("Файл не существует", "Ошибка");
37         return;
38     }
39
40     this.data = new SData.SData();
41     this.data.LoadFromSPB(this.TextBoxSPBFilePath.Text);
42
43     string message_text = String.Format("Файл {0} загружен.", this.TextBoxSPBFilePath.Text);
44     MessageBox.Show(message_text, "Информация");
45     this.TextBoxReportOutput.Text = message_text;
46 }
47
150 %
```

# Метод добавления строки в компонент TextBoxReportOutput

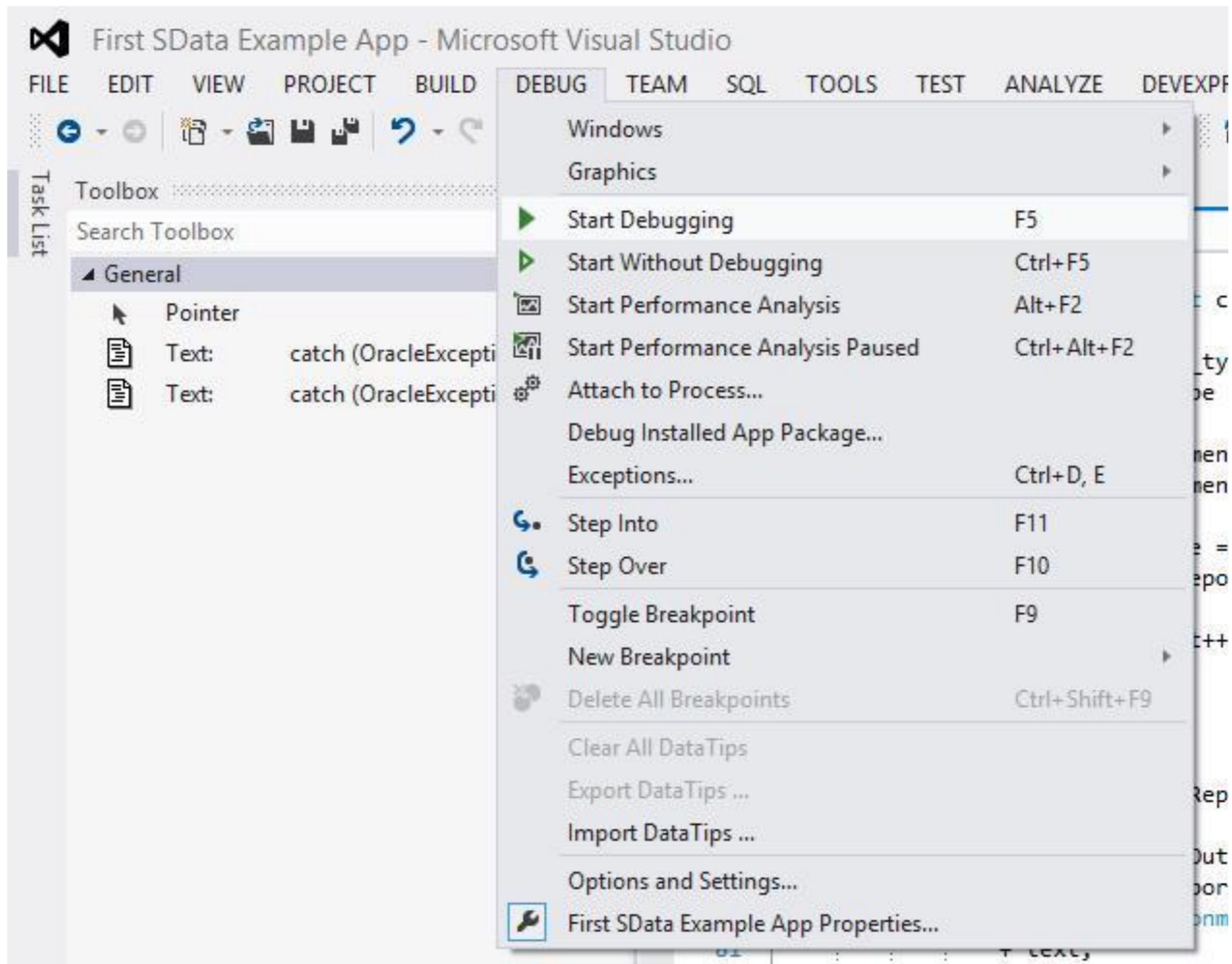
```
77  
78 private void AddTextToReport(string text)  
79 {  
80     this.TextBoxReportOutput.Text =  
81         this.TextBoxReportOutput.Text  
82         + System.Environment.NewLine  
83         + text;  
84 }  
85
```

# Метод обработки события в момент нажатия кнопки ButMakeReport

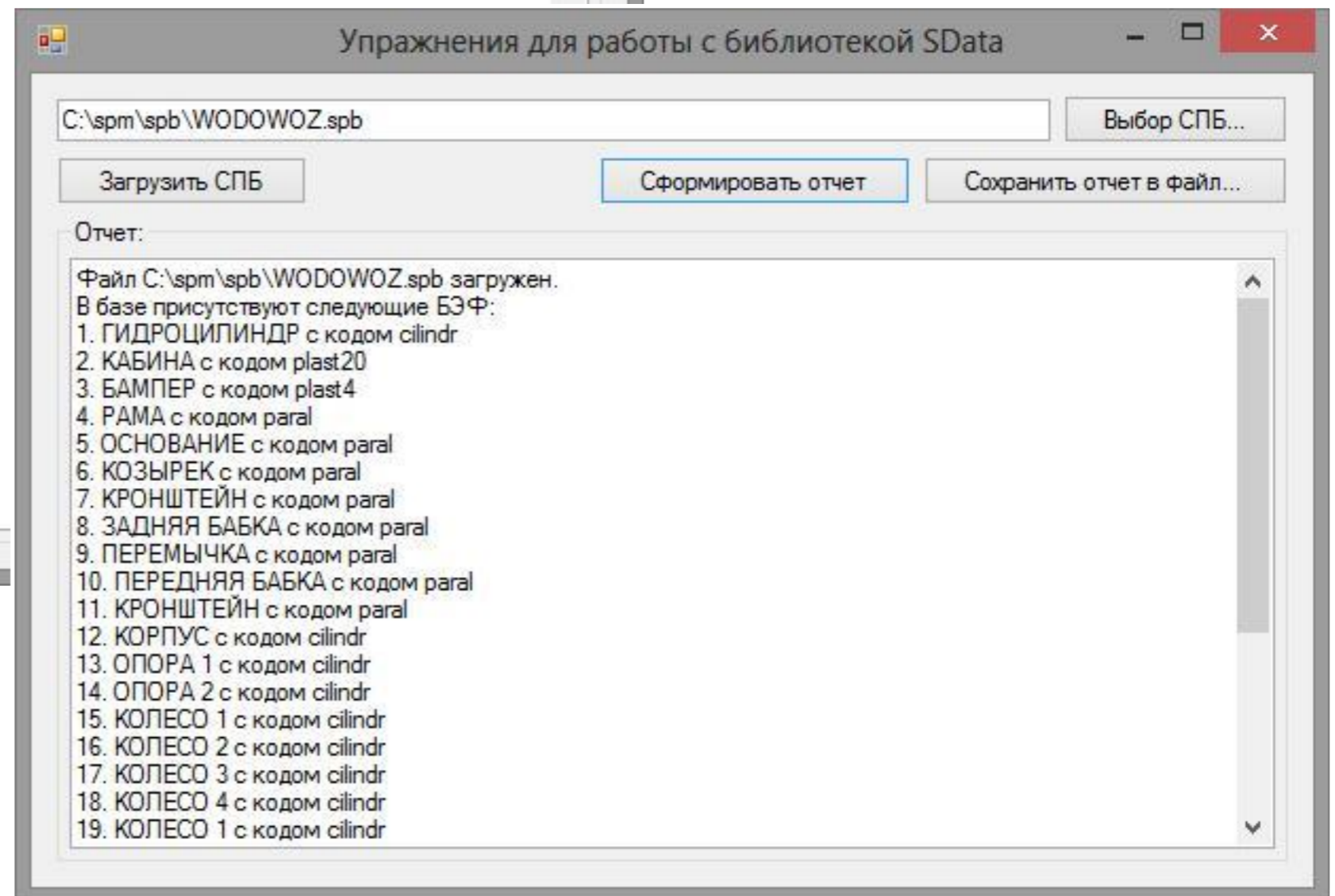
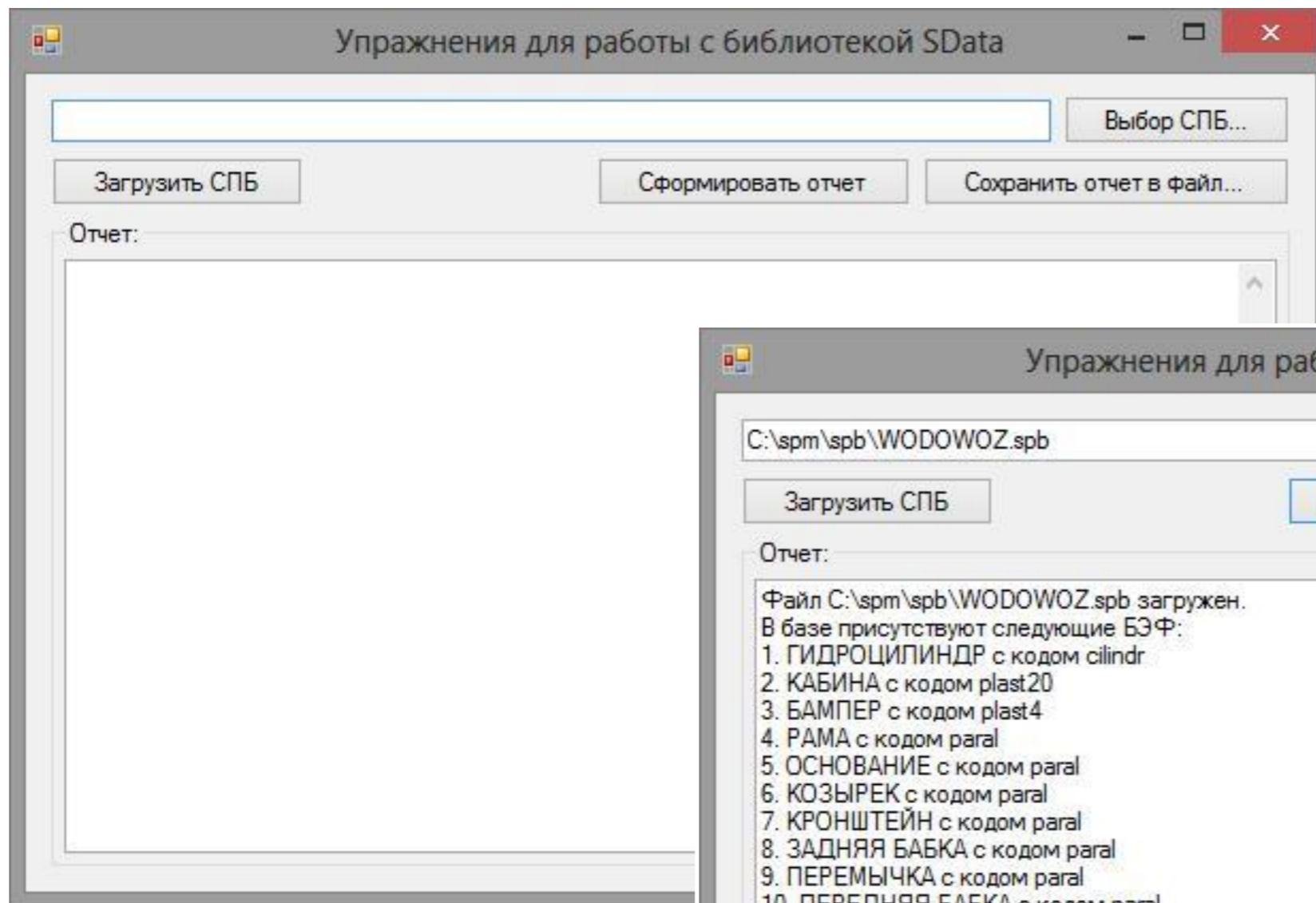
```
First SData Example App - Form1.cs*
Form1.cs*
First_SData_Example_App.Form1
AddTextToReport(string text)
48 private void ButMakeReport_Click(object sender, EventArgs e)
49 {
50     if (this.data == null)
51     {
52         MessageBox.Show("Нет загруженной базы!", "Ошибка");
53         return;
54     }
55
56     this.AddTextToReport("В базе присутствуют следующие БЭФ:");
57     int local_count = 1;
58
59     for (int i = 1; i < data.GetElemCount(); i++)
60     {
61         SData.i_Element current_element = data.GetElem(i);
62
63         string element_type = current_element.type.ToString();
64         if (element_type == "0")
65         {
66             string element_name = current_element.name;
67             string element_kod = current_element.spec;
68
69             string line =
70                 String.Format("{0}. {1} с кодом {2}", local_count, element_name, element_kod);
71             AddTextToReport(line);
72
73             local_count++;
74         }
75     }
76 }
77
```



# Запуск проекта в режиме отладки



# Запуск проекта в режиме отладки





# Спасибо за внимание!

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