



ДЕПАРТАМЕНТ ОБРАЗОВАНИЯ И НАУКИ

ГОРОДА МОСКВЫ

Государственное бюджетное профессиональное
образовательное учреждение города Москвы

«Колледж малого бизнеса № 4»

(ГБПОУ КМБ № 4)

РАБОТА С WINDOWS FORM (.NET FRAMEWORK)

Специальность: 09.02.07 Информационные системы и программирование

Форма обучения: очная

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Отчётная работа защищена с оценкой «____» _____

Москва, 2025 г.

Оглавление

Лабораторная работа №1.....	3
Лабораторная работа №2.....	5
Задание 1.....	5
Задание 2.....	6
Задание 3.....	8
Задание 4.....	10
Лабораторная работа №3.....	12
Задание 1.....	12
Задание 2.....	13
Задание 3.....	14
Задание 4.....	15
Задание 5.....	15
Лабораторная работа №4.....	17
Лабораторная работа №5.....	19
Задание 1.....	19
Задание 2.....	20

Лабораторная работа №1

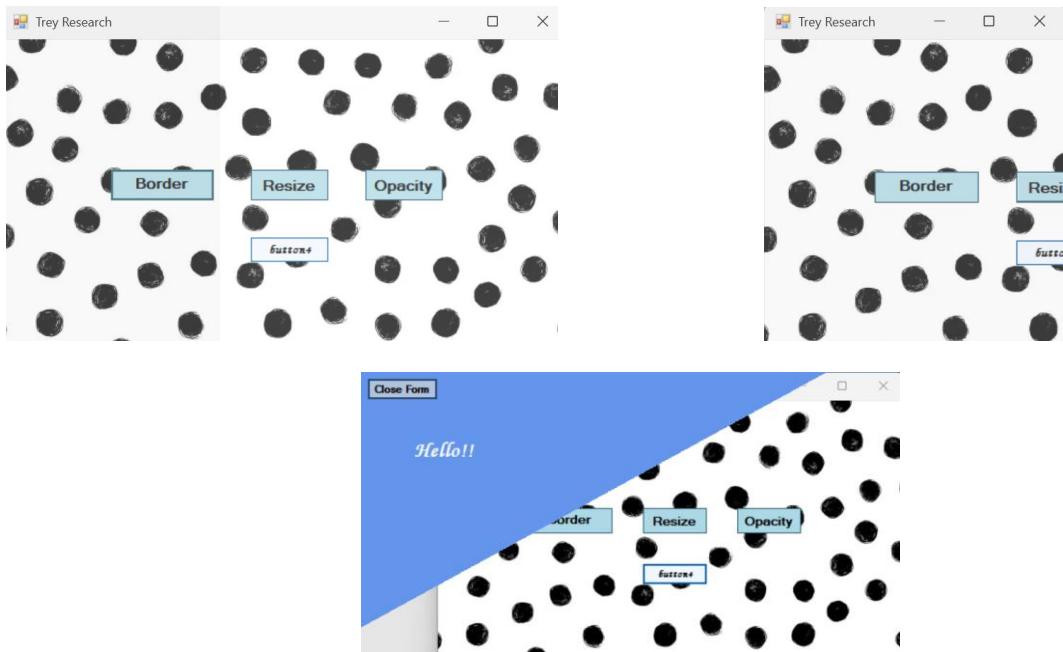
Код (Form1):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10 
11 namespace WindowsFormsApp1
12 {
13     public partial class Form1 : Form
14     {
15         public Form1()
16         {
17             InitializeComponent();
18         }
19 
20         private void button1_Click(object sender, EventArgs e)
21         {
22             this.FormBorderStyle = FormBorderStyle.Sizable;
23         }
24 
25         private void button2_Click(object sender, EventArgs e)
26         {
27             this.Size = new Size(300, 500);
28         }
29 
30         private void button3_Click(object sender, EventArgs e)
31         {
32             this.Opacity = 1;
33         }
34 
35         private void button4_Click(object sender, EventArgs e)
36         {
37             Form2 newForm = new Form2();
38             newForm.Show();
39         }
40     }
41 }
```

Код (Form2):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10 
11 namespace WindowsFormsApp1
12 {
13     public partial class Form2 : Form
14     {
15         public Form2()
16         {
17             InitializeComponent();
18         }
19 
20         private void button1_Click(object sender, EventArgs e)
21         {
22             this.Close();
23         }
24 
25         private void Form2_Load(object sender, EventArgs e)
26         {
27             System.Drawing.Drawing2D.GraphicsPath myPath = new System.Drawing.Drawing2D.GraphicsPath();
28             myPath.AddPolygon(new Point[] { new Point(0, 0), new Point(0, this.Height), new Point(this.Width, 0) });
29             Region myRegion = new Region(myPath);
30             this.Region = myRegion;
31         }
32     }
33 }
34 }
```

Результат отладки:



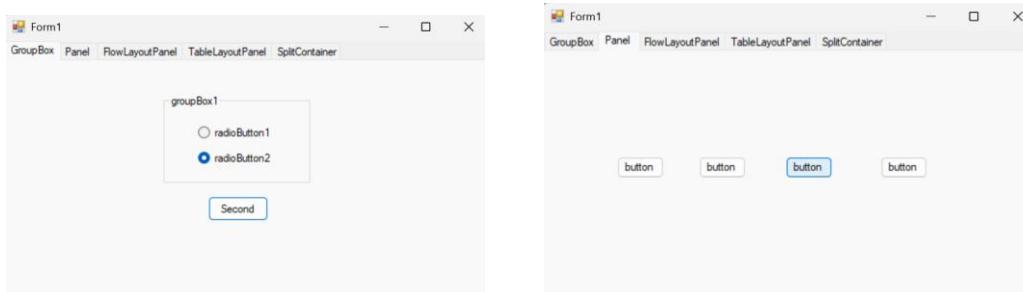
Лабораторная работа №2

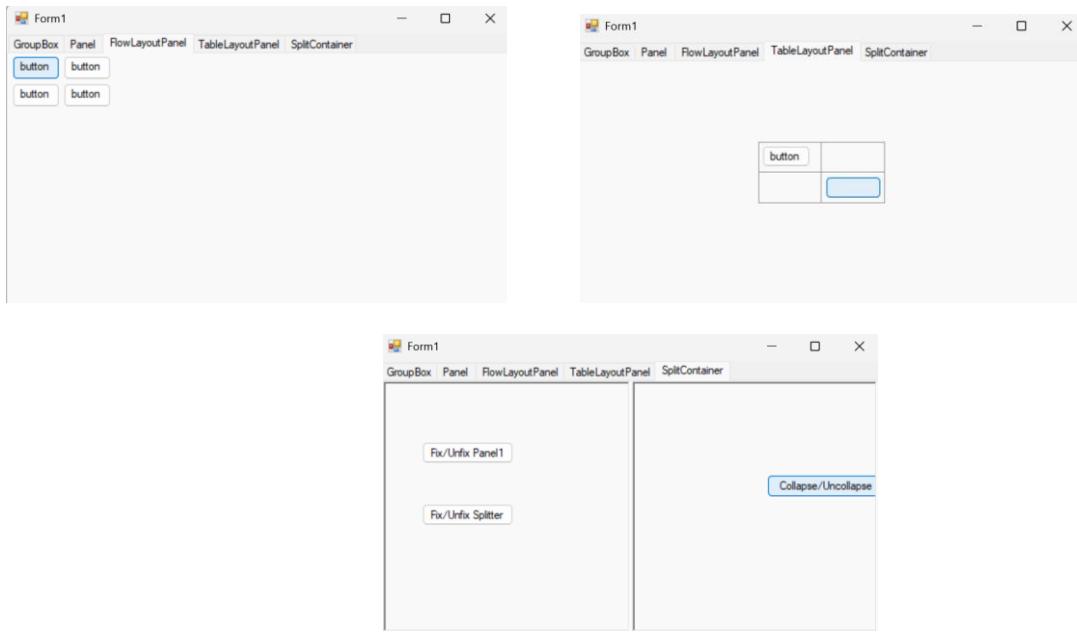
Задание 1

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WinContainer
12  {
13      [ComVisible(true)]
14      public partial class Form1 : Form
15      {
16          //Свойство!
17          public Form1()
18          {
19              InitializeComponent();
20          }
21
22          //Свойство!
23          private void button1_Click(object sender, EventArgs e)
24          {
25              if (radioButton1.Checked == true)
26                  this.but.Text = "First";
27              else if (radioButton2.Checked == true)
28                  this.but.Text = "Second";
29
30          }
31
32          //Свойство!
33          private void button5_Click(object sender, EventArgs e)
34          {
35              flowLayoutPanel1.SetFlowBreak(button6, true);
36          }
37
38          //Свойство!
39          private void button9_Click(object sender, EventArgs e)
40          {
41              Button aButton = new Button();
42              tableLayoutPanel1.Controls.Add(aButton, 1, 1);
43
44
45          }
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
```

Результат отладки:





Задание 2

Код (Form1):

```

1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WinLinkLabel
12  {
13      public partial class Form1 : Form
14      {
15          public Form1()
16          {
17              InitializeComponent();
18          }
19
20          private void linkLabel1_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
21          {
22              DialogResult aResult;

```

```

23          Form2 aForm = new Form2();
24          aResult = aForm.ShowDialog();
25
26          if (aResult == DialogResult.OK)
27          {
28              MessageBox.Show("Your name is " +
29                  aForm.textBox1.Text + " " +
30                  aForm.textBox2.Text);
31
32              MessageBox.Show("Your address is " +
33                  aForm.textBox3.Text);
34
35              MessageBox.Show("Your phone number is " +
36                  aForm.maskedTextBox1.Text);
37
38          }
39
40          linkLabel1.LinkVisited = true;
41
42      }
43
44      private void linkLabel2_LinkClicked(object sender, LinkLabelLinkClickedEventArgs e)
45      {
46          System.Diagnostics.Process.Start("www.limtu.com");
47          linkLabel2.LinkVisited = true;

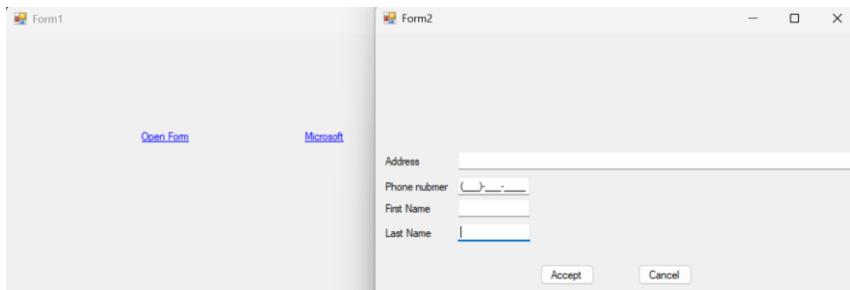
```

```
47 }  
48  
49     Ссылка: 1  
50     private void Form1_Load(object sender, EventArgs e)  
51     {  
52         //  
53     }  
54 }  
55 }
```

Код (Form2):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10 
11  namespace WinLinkLabel
12  {
13      public partial class Form2 : Form
14      {
15          public Form2()
16          {
17              InitializeComponent();
18          }
19 
20          private void Form2_Load(object sender, EventArgs e)
21          {
22      
```

Результат отладки:



Задание 3

Код (ParentForm):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WindowsFormsAppl
12  {
13      public partial class ParentForm : Form
14      {
15          int openDocuments = 0;
16          public ParentForm()
17          {
18              InitializeComponent();
19
20              spData.Text = Convert.ToString(
21                  System.DateTime.Today.ToString());
22          }
23      }
24
25      private void button1_Click(object sender, EventArgs e)
26      {
27          this.FormBorderStyle = FormBorderStyle.Sizable;
28      }
29
30      private void button2_Click(object sender, EventArgs e)
31      {
32          this.Size = new Size(300, 500);
33      }
34
35      private void button3_Click(object sender, EventArgs e)
36      {
37          this.Opacity = 1;
38      }
39
40      private void button4_Click(object sender, EventArgs e)
41      {
42          Form2 newForm = new Form2();
43          newForm.Show();
44
45      }
46
47      private void Form1_Load(object sender, EventArgs e)
48      {
49      }
50
51
52      private void fileToolStripMenuItem_Click(object sender, EventArgs e)
53      {
54      }
55
56
57      private void WindowCascadeMenuItem_Click(object sender, EventArgs e)
58      {
59          this.LayoutMdi(System.Windows.Forms.MdiLayout.Cascade);
60          spWin.Text = "Window is cascade";
61      }
62
63      private void WindowTileMenuItem_Click(object sender, EventArgs e)
64      {
65          this.LayoutMdi(System.Windows.Forms.MdiLayout.TileHorizontal);
66          spWin.Text = "Window is horizontal";
67      }
68
69
70      {
71          ChildForm newChild = new ChildForm();
72          newChild.MdiParent = this;
73
74          newChild.Text = newChild.Text + " " + ++openDocuments;
75
76          newChild.Show();
77      }
78
79      private void ExitMenuItem_Click(object sender, EventArgs e)
80      {
81          this.Close();
82      }
83
84      private void WindowCascadeMenuItem_Click_1(object sender, EventArgs e)
85      {
86          this.LayoutMdi(System.Windows.Forms.MdiLayout.Cascade);
87      }
88
89      private void WindowTileMenuItem_Click_1(object sender, EventArgs e)
90      {
91          this.LayoutMdi(System.Windows.Forms.MdiLayout.TileHorizontal);
92      }
93
94
95
96
97
98
99
100
```

```

94     |         private void NewMenuItem_Click_1(object sender, EventArgs e)
95     |     {
96     |         ChildForm newChild = new ChildForm();
97     |         newChild.MdiParent = this;
98     |         newChild.Show();
99     |
100    |         Ссылка: 1
101    |         private void toolStrip1_ItemClicked(object sender, ToolStripItemClickedEventArgs e)
102    |     {
103    |         if (e.ClickedItem.Tag == null)
104    |             return;
105    |
106    |         switch (e.ClickedItem.Tag.ToString())
107    |         {
108    |             case "NewDoc":
109    |                 ChildForm newChild = new ChildForm();
110    |                 newChild.MdiParent = this;
111    |                 newChild.Show();
112    |                 newChild.Text = newChild.Text + " " + ++openDocuments;
113    |                 break;
114    |
115    |             case "Cascade":
116    |                 this.LayoutMdi(System.Windows.Forms.MdiLayout.Cascade);
117    |                 break;
118    |
119    |             case "Title":
120    |                 this.LayoutMdi(System.Windows.Forms.MdiLayout.TileHorizontal);
121    |                 break;
122    |         }
123    |     }
124    |
125    }

```

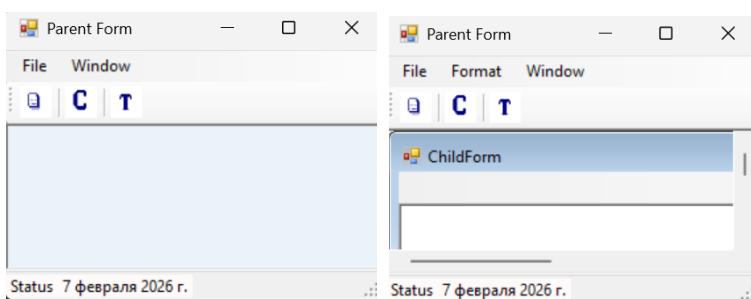
Код (ChildForm):

```

1   |     using System;
2   |     using System.Collections.Generic;
3   |     using System.ComponentModel;
4   |     using System.Data;
5   |     using System.Drawing;
6   |     using System.Linq;
7   |     using System.Text;
8   |     using System.Threading.Tasks;
9   |     using System.Windows.Forms;
10  |
11  |     namespace WindowsFormsAppl
12  |     {
13  |         Ссылка: 8
14  |         public partial class ChildForm : Form
15  |         {
16  |             Ссылка: 3
17  |             public ChildForm()
18  |             {
19  |                 InitializeComponent();
20  |
21  |             Ссылка: 1
22  |             private void ToggleMenuItem_Click(object sender, EventArgs e)
23  |             {
24  |                 if (ToggleMenuItem.Checked)
25  |                 {
26  |                     ToggleMenuItem.Checked = false;
27  |                     ChildTextBox.ForeColor = System.Drawing.Color.Black;
28  |                 }
29  |                 else
30  |                 {
31  |                     ToggleMenuItem.Checked = true;
32  |                     ChildTextBox.ForeColor = System.Drawing.Color.Blue;
33  |                 }
34  |             }
35  |         }
36  |
37  |
38  |
39  |
40  |
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125 |

```

Результат отладки:



Задание 4

Код:

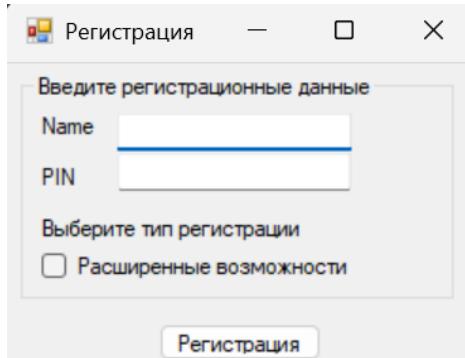
```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace RegistrationForm
12  {
13      public partial class Form1 : Form
14      {
15          public Form1()
16          {
17              InitializeComponent();
18          }
19
20          private void checkBox1_CheckedChanged(object sender, EventArgs e)
21          {
22              if (checkBox1.Checked == true)
23              {
24                  Label lbl = new Label();
25                  lbl.Location = new System.Drawing.Point(16, 96);
26                  lbl.Size = new System.Drawing.Size(32, 23);
27                  lbl.Name = "label1";
28                  lbl.TabIndex = 2;
29                  lbl.Text = "PIN2";
30                  groupBox1.Controls.Add(lbl);
31
32                  TextBox txt = new TextBox();
33                  txt.Location = new System.Drawing.Point(96, 96);
34                  txt.Size = new System.Drawing.Size(184, 20);
35                  txt.Name = "textboxx";
36                  txt.TabIndex = 1;
37                  txt.Text = "";
38                  txt.KeyPress += new KeyPressEventHandler(textBox2_KeyPress);
39                  groupBox1.Controls.Add(txt);
40
41              }
42              else
43              {
44                  int lcv;
45                  lcv = groupBox1.Controls.Count;
46                  while (lcv > 4)
47                  {
48                      groupBox1.Controls.RemoveAt(lcv - 1);
49                      lcv -= 1;
50                  }
51
52          }
53          private void textBox1_KeyPress(object sender, KeyPressEventArgs e)
54          {
55              if (char.IsDigit(e.KeyChar))
56              {
57                  e.Handled = true;
58                  MessageBox.Show("Поле Name не может содержать цифры");
59              }
59              else
60              {
61                  errorProvider1.SetError(textBox1, "Must be letter");
62              }
63
64          }
65
66          private void textBox2_KeyPress(object sender, KeyPressEventArgs e)
67          {
68              if (!char.IsDigit(e.KeyChar))
```

```

69     |         {
70     |             e.Handled = true;
71     |             MessageBox.Show("Поле PIN не может содержать буквы");
72     |         }
73
74     |     }
75     |     Ссылка: 1
76     |     private void textBox2_Validate(object sender, CancelEventArgs e)
77     |     {
78     |         if (textBox2.Text == "")
79     |         {
80     |             e.Cancel = false;
81     |         }
82     |         else
83     |         {
84     |             try
85     |             {
86     |                 double.Parse(textBox2.Text);
87     |                 e.Cancel = false;
88     |             }
89     |             catch
90     |             {
91     |                 e.Cancel = true;
92     |                 MessageBox.Show("Поле PIN не может содержать буквы");
93     |             }
94     |         }
95
96     |         Ссылка: 1
97     |         private void button1_Click(object sender, EventArgs e)
98     |         {
99     |         }
100
101    |         Ссылка: 1
102    |         private void textBox1_TextChanged(object sender, EventArgs e)
103    |         {
104    |         }
105
106    |     }

```

Результат отладки:



Лабораторная работа №3

Задание 1

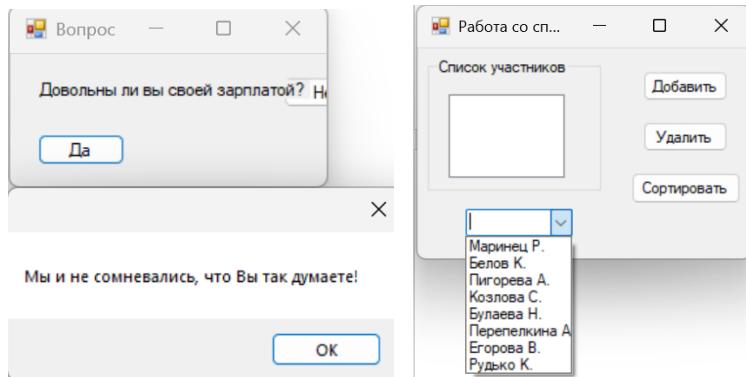
Код (TestList):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WindowsFormsApp1
12  {
13      public partial class TestList : Form
14      {
15          public TestList()
16          {
17              InitializeComponent();
18          }
19
20          private void buttonAdd_Click(object sender, EventArgs e)
21          {
22              if (peopleList.Text.Length != 0)
23              {
24                  memberList.Items.Add(peopleList.Text);
25              }
26              else MessageBox.Show("Выберите элемент из списка или введите новый");
27          }
28
29          private void buttonDelete_Click(object sender, EventArgs e)
30          {
31              while (memberList.CheckedIndices.Count > 0)
32                  memberList.Items.RemoveAt(memberList.CheckedIndices[0]);
33          }
34
35          private void buttonSort_Click(object sender, EventArgs e)
36          {
37              memberList.Sorted = true;
38          }
39
40      }
41  }
42
```

Код (WinQuestion):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WindowsFormsApp1
12  {
13      public partial class WinQuestion : Form
14      {
15          public WinQuestion()
16          {
17              InitializeComponent();
18          }
19
20          private void bttnyes_Click(object sender, EventArgs e)
21          {
22              MessageBox.Show("Мы и не сомневались, что Вы так думаете!");
23          }
24
25          private void bttnno_MouseMove(object sender, MouseEventArgs e)
26          {
27              bttno.Top -= e.Y;
28              bttno.Left += e.X;
29              if (bttno.Top + -10 || bttno.Top > 100)
30                  bttno.Top = 60;
31              if (bttno.Left < -80 || bttno.Left > 250)
32                  bttno.Left = 120;
33
34          }
35
36      }
37  }
```

Результат отладки:



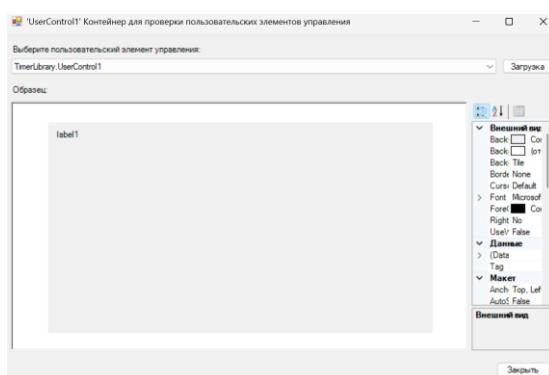
Задание 2

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Drawing;
5  using System.Data;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace TimerLibrary
12  {
13
14      public partial class UserControl1 : UserControl
15      {
16          public UserControl1()
17          {
18              InitializeComponent();
19
20          }
21
22          private void timer1_Tick(object sender, EventArgs e)
23          {
24              label1.Text = DateTime.Now.ToString("HH:mm:ss");
25
26          }
27
28      }
29
30  }
```

```
23
24  {
25
26      public bool TimeEnabled
27      {
28          get { return timer1.Enabled; }
29          set { timer1.Enabled = value; }
30      }
31  }
32
33 }
```

Результат отладки:



Задание 3

Код:

```
1   using System;
2   using System.Windows.Forms;
3   using System.Drawing;
4
5   namespace WinButNum
6   {
7       public class ClickButton : System.Windows.Forms.Button
8       {
9           int mClicks;
10
11           public int Clicks
12           {
13               get { return mClicks; }
14           }
15
16           protected override void OnClick(EventArgs e)
17           {
18               mClicks++;
19               base.OnClick(e);
20           }
21
22           protected override void OnPaint(System.Windows.Forms.PaintEventArgs pevent)
23           {
24               base.OnPaint(pevent);
25
26               System.Drawing.Graphics g = pevent.Graphics;
27               System.Drawing.SizeF stringsize;
28
29               stringsize = g.MeasureString(
30                   Clicks.ToString(),
31                   this.Font,
32                   this.Width
33               );
34
35               g.DrawString(
36                   Clicks.ToString(),
37                   this.Font,
38                   System.Drawing.SystemBrushes.ControlText,
39                   this.Width - stringsize.Width - 3,
40                   this.Height - stringsize.Height - 3
41               );
42           }
43       }
44   }
```

Результат отладки:



Задание 4

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11 namespace WinTimer1
12 {
13     public partial class UserControlTimer : UserControl
14     {
15         Ссылка: 1
16         public UserControlTimer()
17         {
18             InitializeComponent();
19         }
20
21         Ссылка: 1
22         private void timer1_Tick(object sender, EventArgs e)
23         {
24             label1.Text = DateTime.Now.ToString("HH:mm:ss");
25         }
26
27         Ссылка: 1
28         public bool TimeEnabled
29         {
30             get { return timer1.Enabled; }
31             set { timer1.Enabled = value; }
32         }
33     }
34 }
```

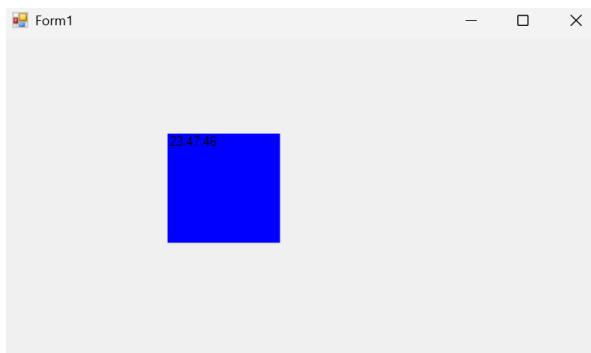
Задание 5

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11 namespace WinTimer2
12 {
13     public partial class UserControlTimer2 : UserControl
14     {
15         public UserControlTimer2()
16         {
17             InitializeComponent();
18         }
19
20         private void timer1_Tick(object sender, EventArgs e)
21         {
22             this.Refresh();
23         }
24 }
```

```
23
24
25     }
26
27     protected override void OnPaint(PaintEventArgs pe)
28     {
29         base.OnPaint(pe);
30         Graphics g = pe.Graphics;
31         g.FillRectangle(Brushes.Blue, 0, 0, this.Width,
32             this.Height);
33         pe.Graphics.DrawString(DateTime.Now.ToString(),
34             this.Font, new SolidBrush(this.ForeColor), 0, 0);
35     }
36
37 }
```

Результат отладки:

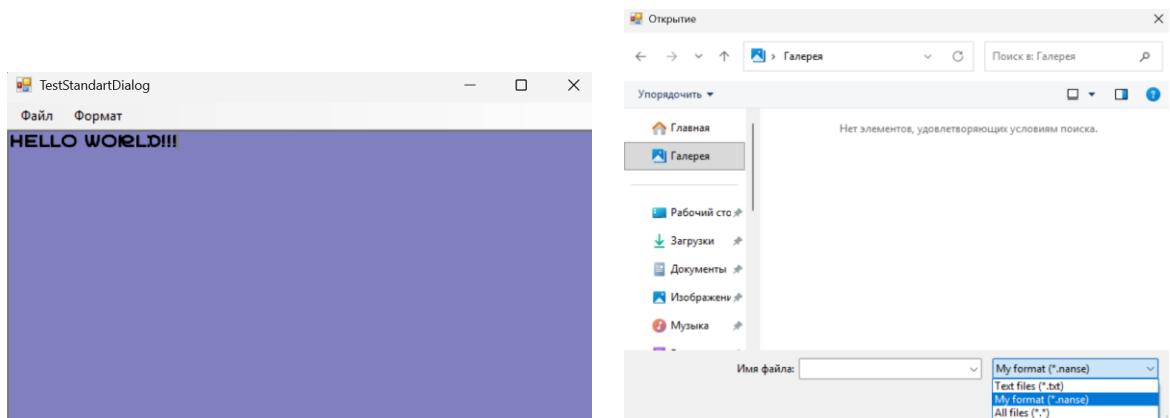


Лабораторная работа №4

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.IO;
7  using System.Linq;
8  using System.Text;
9  using System.Threading.Tasks;
10 using System.Windows.Forms;
11
12 namespace TestStandartDialog
13 {
14     public partial class Form1 : Form
15     {
16         public Form1()
17         {
18             InitializeComponent();
19         }
20
21         private void saveFileDialog1_FileOk(object sender, CancelEventArgs e)
22         {
23
24
25             private void сохранитьКакToolStripMenuItem_Click(object sender, EventArgs e)
26             {
27                 try
28                 {
29                     saveFileDialog1.Filter = "txt files (*.txt)|*.txt";
30
31                     if (saveFileDialog1.ShowDialog() == DialogResult.OK)
32                         && saveFileDialog1.FileName.Length > 0)
33                     {
34                         richTextBox1.SaveFile(
35                             saveFileDialog1.FileName,
36                             RichTextBoxStreamType.PlainText);
37
38                         MessageBox.Show("Файл успешно сохранён");
39                     }
40                 catch (Exception ex)
41                 {
42                     MessageBox.Show("Ошибка сохранения:\n" + ex.Message);
43                 }
44             }
45
46             private void цветаТoolStripMenuItem_Click(object sender, EventArgs e)
47             {
48                 if (colorDialog1.ShowDialog() == DialogResult.OK)
49                 {
50                     richTextBox1.BackColor = colorDialog1.Color;
51                 }
52             }
53
54             private void шрифтToolStripMenuItem_Click(object sender, EventArgs e)
55             {
56                 if (fontDialog1.ShowDialog() == DialogResult.OK)
57                 {
58                     richTextBox1.Font = fontDialog1.Font;
59                 }
60             }
61
62             private void открытьToolStripMenuItem_Click(object sender, EventArgs e)
63             {
64                 Stream myStream = null;
65                 OpenFileDialog openFileDialog1 = new OpenFileDialog();
66
67                 openFileDialog1.InitialDirectory = @"c:\";
68
69
70                 openFileDialog1.Filter = "Text files (*.txt)|*.txt|My format (*.nanse)|*.mytxt>All files (*.*)|*.*";
71                 openFileDialog1.FilterIndex = 2;
72
73                 if (openFileDialog1.ShowDialog() == DialogResult.OK)
74                 {
75                     try
76                     {
77                         if ((myStream = openFileDialog1.OpenFile()) != null)
78                         {
79                             using (myStream)
80                             {
81                                 richTextBox1.LoadFile(
82                                     openFileDialog1.FileName,
83                                     RichTextBoxStreamType.PlainText);
84                             }
85                         }
86                     }
87                     catch (Exception ex)
88                     {
89                         MessageBox.Show("Error: Could not read file from disk: " + ex.Message);
90                     }
91                 }
92             }
93 }
```

Результат отладки:



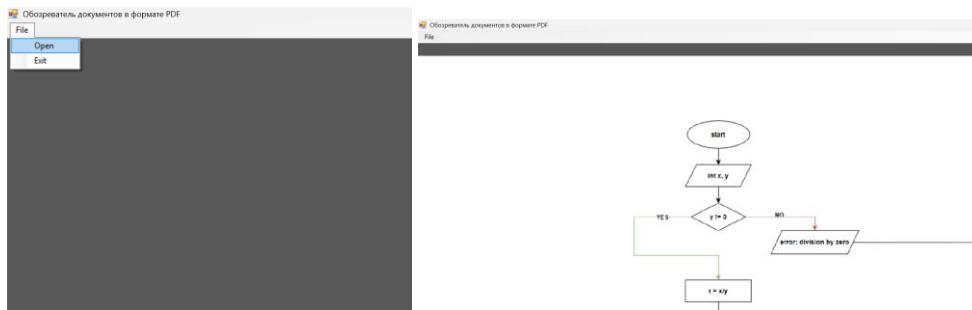
Лабораторная работа №5

Задание 1

Код:

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace PDF_Reader
12  {
13      public partial class Form1 : Form
14      {
15          public Form1()
16          {
17              InitializeComponent();
18          }
19
20          private void openToolStripMenuItem_Click(object sender, EventArgs e)
21          {
22              openFileDialog1.Filter = "Файлы pdf|*.pdf";
23              openFileDialog1.ShowDialog();
24              axAcroPDF1.LoadFile(openFileDialog1.FileName);
25
26
27          private void exitToolStripMenuItem_Click(object sender, EventArgs e)
28          {
29              this.Close();
30          }
31
32      }
33  }
```

Результат отладки:



Задание 2

Код (Form1):

```
1  using System;
2  using System.Collections.Generic;
3  using System.ComponentModel;
4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace WinAnim
12  {
13      public partial class Form1 : Form
14      {
15          public Form1()
16          {
17              InitializeComponent();
18          }
19
20          private void btnAW_BLEND_Click(object sender, EventArgs e)
21          {
22              this.Hide();
23              WinAPIClass.AnimateWindow(this, 3000,
24                  WinAPIClass.AnimateWindowFlags.AW_ACTIVATE |
25                  WinAPIClass.AnimateWindowFlags.AW_BLEND);
26
27              btnAW_BLEND.Invalidate();
28              btnHOR_AW_SLIDE.Invalidate();
29              btnCenter_AW_SLIDE.Invalidate();
30          }
31
32          private void btnHOR_AW_SLIDE_Click(object sender, EventArgs e)
33          {
34              this.Hide();
35              WinAPIClass.AnimateWindow(this, 3000,
36                  WinAPIClass.AnimateWindowFlags.AW_HOR_POSITIVE |
37                  WinAPIClass.AnimateWindowFlags.AW_SLIDE);
38
39              btnAW_BLEND.Invalidate();
40              btnHOR_AW_SLIDE.Invalidate();
41              btnCenter_AW_SLIDE.Invalidate();
42          }
43
44          private void btnCenter_AW_SLIDE_Click(object sender, EventArgs e)
45          {
46              this.Hide();
47              WinAPIClass.AnimateWindow(this, 3000,
48                  WinAPIClass.AnimateWindowFlags.AW_CENTER |
49                  WinAPIClass.AnimateWindowFlags.AW_SLIDE);
50
51              btnAW_BLEND.Invalidate();
52              btnHOR_AW_SLIDE.Invalidate();
53              btnCenter_AW_SLIDE.Invalidate();
54          }
55      }
56  }
57
```

Код (WinAPIClass):

```
1  using System;
2  using System.Runtime.InteropServices;
3  using System.Windows.Forms;
4
5  public class WinAPIClass
6  {
7      [Flags]
8      public enum AnimateWindowFlags : int
9      {
10          AW_HOR_POSITIVE = 1,
11          AW_HOR_NEGATIVE = 2,
12          AW_VER_POSITIVE = 4,
13          AW_VER_NEGATIVE = 8,
14          AW_CENTER = 16,
15          AW_HIDE = 65536,
16          AW_ACTIVATE = 131072,
17          AW_SLIDE = 262144,
18          AW_BLEND = 524288
19      };
20
21      [DllImport("user32.dll", EntryPoint = "AnimateWindow", SetLastError = true)]
22  }
```

```
22     public static extern bool AnimateWindow(
23         IntPtr hwnd, int dwTime, int dwFlags);
24 
25     Ссылка: 3
26     public static bool AnimateWindow(
27         Control ctrl, int dwTime, AnimateWindowFlags Flags)
28     {
29         return AnimateWindow(ctrl.Handle, dwTime, (int)Flags);
30     }
31 
```

Результат отладки:

