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(МИ (филиал) ВлГУ)

Факультет _____ ИТ
Кафедра _____ САПР

Лабораторная работа №3

по _____ Инструментальные средства разработки программного обеспечения
Тема: _____ Разработка приложения на языке C#
_____ с использованием WPF

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06.03.2018

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Лабораторная работа №3

Разработка приложения на языке C# с использованием WPF

Порядок выполнения:

- а) В Visual Studio 2017 создать проект C# “Приложение WPF”.
- б) Добавить в проект компонент “WPF компонент (виджет)”
- в) Разработать на этом компоненте программу калькулятор. .
- г) Добавить компонент на главную форму, проверить работоспособность программы.

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Разраб.		Буканин А. В.						У	2	11
Пров.		Пугин Е. В.						МИ ВлГУ ПКС-216		
Н. контр.										
Утв.										

```

        Код программы: using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows;
using System.Windows.Controls;
using System.Windows.Data;
using System.Windows.Documents;
using System.Windows.Input;
using System.Windows.Media;
using System.Windows.Media.Imaging;
using System.Windows.Navigation;
using System.Windows.Shapes;

        namespace WpfApp1
        {
            /// <summary>
            /// Логика взаимодействия для MainWindow.xaml
            /// </summary>
            public partial class MainWindow : Window
            {
                public MainWindow()
                { InitializeComponent();
                }

                public double c = 0;
                bool bplus = false, bminus = false, bumnoj = false, bdelen = false, bpoint = false;

                private void Button_Click(object sender, RoutedEventArgs e)
                {
                    texb.Text += 0;
                }

                private void one_Click(object sender, RoutedEventArgs e)

```

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{
texb.Text += 1;
}
private void two_Click(object sender, RoutedEventArgs e)
{
texb.Text += 2;
}
private void three_Click(object sender, RoutedEventArgs e)
{
texb.Text += 3;
}
private void four_Click(object sender, RoutedEventArgs e)
{
texb.Text += 4;
}
private void five_Click(object sender, RoutedEventArgs e)
{
texb.Text += 5;
}
private void six_Click(object sender, RoutedEventArgs e)
{
texb.Text += 6;
}
private void seven_Click(object sender, RoutedEventArgs e)
{
texb.Text += 7;
}
private void eight_Click(object sender, RoutedEventArgs e)
{
texb.Text += 8;
}

private void nine_Click(object sender, RoutedEventArgs e)
{

```

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```

texb.Text += 9;
}
private void point_Click(object sender, RoutedEventArgs e)
{
texb.Text += ',';
point.IsEnabled = false;
}
private void C_Click(object sender, RoutedEventArgs e)
{
if (texb.Text.Length != 0)
texb.Text = texb.Text.Substring(0, texb.Text.Length - 1);
for (int i = 0; i < texb.Text.Length; i++)
if (texb.Text[i] == ',')
{
bpoint = true;
break;
} else
bpoint = false;

        if (bpoint == true)
point.IsEnabled = false;

        else
point.IsEnabled = true;

    }
private void CE_Click(object sender, RoutedEventArgs e)
{
texb.Text = "";
}
private void delenie_Click(object sender, RoutedEventArgs e)
{
bdelen = true;

```

```

c = Convert.ToDouble(texb.Text);
texb.Text = "";
} private void umnojenie_Click(object sender, RoutedEventArgs e)
{
    bumnoj = true;
    c = Convert.ToDouble(texb.Text);
    texb.Text = "";
}
private void minus_Click(object sender, RoutedEventArgs e)
{
    bminus = true;
    c = Convert.ToDouble(texb.Text);
    texb.Text = "";
}

        private void ravno_Click(object sender, RoutedEventArgs e)
        {
            if (bplus == true)
            {
                c += Convert.ToDouble(texb.Text);
                bplus = false;
            }
            else
            if (bminus == true)
            {
                c -= Convert.ToDouble(texb.Text);
                bminus = false;
            }

            else
            if (bumnoj == true)
            {
                c *= Convert.ToDouble(texb.Text);
                bumnoj = false;
            }

```

```

}

        else
if (bdelen == true)
{
c /= Convert.ToDouble(textb.Text);
bdelen = false;
}

        else
c = Convert.ToDouble(textb.Text);

        textb.Text = Convert.ToString(c);
}

private void plus_Click(object sender, RoutedEventArgs e)
{
bplus = true;
c = Convert.ToDouble(textb.Text);
textb.Text = "";
}
}
}

```

XAML код:

```
<Window x:Class="WpfApp1.MainWindow"
xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation"
xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
xmlns:mc="http://schemas.openxmlformats.org/markup-compatibility/2006"
xmlns:local="clr-namespace:WpfApp1"
mc:Ignorable="d"
Title="Калькулятор" Height="433.13" Width="405.669">
<Grid Margin="0,0,2,0">
<Grid.ColumnDefinitions>
<ColumnDefinition Width="7*"/>
<ColumnDefinition Width="168*"/>
<ColumnDefinition/>
<ColumnDefinition Width="38*"/>
<ColumnDefinition Width="0*"/>
<ColumnDefinition Width="0*"/>
<ColumnDefinition Width="41*"/>
<ColumnDefinition Width="24*"/>
<ColumnDefinition Width="117*"/>
</Grid.ColumnDefinitions>
<TextBox x:Name="texb" HorizontalAlignment="Stretch" Height="44"
Margin="29.436,10,26,0" TextWrapping="Wrap" VerticalAlignment="Top"
Width="333" FontSize="18" Grid.ColumnSpan="8" IsEnabled="False"
Grid.Column="1"/>
<Button Content="Button" HorizontalAlignment="Left" Margin="3.436,267,0,0"
VerticalAlignment="Top" Width="65" Height="54" Grid.Column="1"/>
<Button x:Name="two" Content="2" HorizontalAlignment="Left"
Margin="92.436,267,0,0" VerticalAlignment="Top" Width="65" Height="54"
Click="two_Click" Grid.Column="1"/>
<Button x:Name="three" Content="3" HorizontalAlignment="Left"
Margin="13,267,0,0" VerticalAlignment="Top" Width="65" Height="54"
Grid.ColumnSpan="4" Grid.Column="3" Click="three_Click"/>
```

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```
<Button      x:Name="minus"      Content="-"      HorizontalAlignment="Left"
Margin="23,267,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.Column="7" Grid.ColumnSpan="2" Click="minus_Click" IsEnabled="Binding
ElementName=txb, Path=Text.Length" />
```

```
<Button      x:Name="four"      Content="4"      HorizontalAlignment="Left"
Margin="3.436,199,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="four_Click" Grid.Column="1"/>
```

```
<Button      x:Name="five"      Content="5"      HorizontalAlignment="Left"
Margin="92.436,199,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="five_Click" Grid.Column="1"/>
```

```
<Button x:Name="six" Content="6" HorizontalAlignment="Left" Margin="13,199,0,0"
VerticalAlignment="Top" Width="65" Height="54" Grid.ColumnSpan="4"
Grid.Column="3" Click="six_Click"/>
```

```
<Button      x:Name="umnojenie"      Content="*"      HorizontalAlignment="Left"
Margin="23,199,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.Column="7"      Grid.ColumnSpan="2"      Click="umnojenie_Click"
IsEnabled="Binding ElementName=txb, Path=Text.Length" />
```

```
<Button      x:Name="seven"      Content="7"      HorizontalAlignment="Left"
Margin="3.436,129,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="seven_Click" Grid.Column="1"/>
```

```
<Button      x:Name="eight"      Content="8"      HorizontalAlignment="Left"
Margin="92.436,129,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="eight_Click" Grid.Column="1"/>
```

```
<Button      x:Name="nine"      Content="9"      HorizontalAlignment="Left"
Margin="13,129,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.ColumnSpan="4" Grid.Column="3" Click="nine_Click"/>
```

```
<Button      x:Name="delenie"      Content="/"      HorizontalAlignment="Left"
Margin="23,129,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.Column="7" Grid.ColumnSpan="2" Click="delenie_Click" IsEnabled="Binding
ElementName=txb, Path=Text.Length"/>
```

```
<Button      x:Name="one"      Content="1"      HorizontalAlignment="Left"
Margin="3.436,267,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="one_Click" Grid.Column="1"/>
```

```
<Button      Content="0"      HorizontalAlignment="Left"      Margin="3.436,341,0,0"
```

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VerticalAlignment="Top"      Width="65"      Height="54"      Click="Button_Click"
Grid.Column="1"/>
<Button      x:Name="point"      Content=","      HorizontalAlignment="Left"
Margin="92.436,341,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Click="point_Click"      Grid.Column="1"      IsEnabled="Binding      ElementName=txb,
Path=Text.Length" />
<Button      x:Name="plus"      Content="+"      HorizontalAlignment="Left"
Margin="13,341,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.ColumnSpan="4"      Grid.Column="3"      Click="plus_Click"      IsEnabled="Binding
ElementName=txb, Path=Text.Length" />
<Button      x:Name="ravno"      Content="="      HorizontalAlignment="Left"
Margin="23,341,0,0"      VerticalAlignment="Top"      Width="65"      Height="54"
Grid.Column="7"      RenderTransformOrigin="0.234,0.67"      Grid.ColumnSpan="2"
Click="ravno_Click" IsEnabled="Binding ElementName=txb, Path=Text.Length" />
<Button      x:Name="CE"      Content="CE"      HorizontalAlignment="Left"
Margin="92.436,74,0,0"      VerticalAlignment="Top"      Width="103"      Height="41"
Grid.ColumnSpan="3"      Click="CE_Click"      IsEnabled="Binding      ElementName=txb,
Path=Text.Length" Grid.Column="1" />
<Button x:Name="C" Content="C" HorizontalAlignment="Left" Margin="15,74,0,0"
VerticalAlignment="Top"      Width="114"      Height="41"      Grid.ColumnSpan="4"
Grid.Column="5"      Click="C_Click"      IsEnabled="Binding      ElementName=txb,
Path=Text.Length" />

</Grid>
</Window>

```



Рис. 1 – Окно программы

Вывод: Я научился разрабатывать приложения на WPF;