МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ

Федеральное государственное бюджетное образовательное учреждение высшего образования

«Казанский национальный исследовательский технический университет

им. А.Н. Туполева – КАИ»

Институт компьютерных технологий и защиты информации

Отделение СПО ИКТЗИ (Колледж информационных технологий)

ЛАБОРАТОРНАЯ РАБОТА №4

по дисциплине

Разработка программных модулей

Тема: «Классы Path и Geometry»

Работу выполнил

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Принял

Преподаватель Лоповок Е.Е.

Казань 2024

**Цель работы**

Изучить классы Path, Geometry.

**Задание на лабораторную работу**

1. Разработайте WPF-приложение «Дорожные знаки» со следующим интерфейсом:

**Изображение выглядит как снимок экрана, текст, линия, диаграмма

Автоматически созданное описание**

По запросу «Дорожные знаки Российской Федерации» найдите в Википедии соответствующую страницу и выберите на ней три сложных знака, отличных от изображенных в примере. Обязательно, чтобы при нажатии на знак открывался файл SVG. В первом столбце знаки изображаются с помощью объектов Path, во втором – с помощью картинок в формате PNG. Конвертацию SVG-файла в XAML- и PNG-файлы можно произвести с помощью программы Inkscape. При нажатии на любой знак он плавно увеличивается и перемещается в правую часть окна. Через две секунды он плавно возвращается в исходное состояние. При наведении курсора мыши на какой-то один знак плавно меняется цвет какой-либо части этого знака.

**Изображение выглядит как текст, снимок экрана

Автоматически созданное описание**

1. Разработайте WPF-приложение «Карусель товаров» со следующим интерфейсом:

Изображение выглядит как электроника, текст, ноутбук, Устройство вывода

Автоматически созданное описание

В окне перемещаются PNG-изображения товаров (в Вашем приложении могут быть любые товары) по часовой стрелке по следующему геометрическому пути. При перемещении изменяется масштаб и прозрачность изображений. В точке (0,300) изображения становятся полностью непрозрачными с максимальным размером.

**Результат выполнения работы**

Задание 1 (Рисунок 1–2).

Изображение выглядит как Дорожный знак, линия, Шрифт, символ

Автоматически созданное описание

Рисунок 1 – Перемещение при нажатии

Изображение выглядит как линия, снимок экрана, Шрифт, диаграмма

Автоматически созданное описание

Рисунок 2 – Изменение цвета при наведении

Задание 2 (Рисунок 3).

Изображение выглядит как снимок экрана, текст, диаграмма, дизайн

Автоматически созданное описание

Рисунок 3 – Результат работы программы для задания 2

**Листинг**

Задание 1:

<Window x:Class="РПМ\_ЛР9\_Знаки.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:РПМ\_ЛР9\_Знаки"

mc:Ignorable="d"

Title="MainWindow" Height="450" Width="800">

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<Grid.RowDefinitions>

<RowDefinition/>

<RowDefinition/>

<RowDefinition/>

</Grid.RowDefinitions>

<Grid.ColumnDefinitions>

<ColumnDefinition/>

<ColumnDefinition/>

<ColumnDefinition Width="2.5\*"/>

</Grid.ColumnDefinitions>

<Viewbox Grid.Row="0" xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation" Stretch="Uniform">

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<StackPanel.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

<TranslateTransform X="0" Y="0" />

</TransformGroup>

</StackPanel.RenderTransform>

<StackPanel.Triggers>

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

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<LinearDoubleKeyFrame KeyTime="0:0:0" Value="1"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleY">

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2500"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="0"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="100"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="100"/>

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</Storyboard>

</BeginStoryboard>

</EventTrigger>

</StackPanel.Triggers>

<Canvas Name="svg12" Width="834.116" Height="734.423">

<Canvas.Resources/>

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<Path.Data>

<PathGeometry Figures="m 0 689.423 c 0 24.853 20.147 45 45 45 l 744.116 0 c 24.853 0 45 -20.147 45 -45 c 0 -7.899 -2.079 -15.659 -6.029 -22.5 l -372.058 -644.423 c -8.038 -13.923 -22.894 -22.5 -38.971 -22.5 c -16.077 0 -30.933 8.577 -38.971 22.5 l -372.058 644.423 c -3.950 6.841 -6.029 14.601 -6.029 22.5 z" FillRule="NonZero"/>

</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path6" StrokeThickness="2" Stroke="#FF000000">

<Path.Data>

<PathGeometry Figures="m 1 689.423 c 0 24.301 19.699 44 44 44 l 744.116 0 c 24.301 0 44 -19.699 44 -44 c 0 -7.724 -2.033 -15.311 -5.895 -22.0 l -372.058 -644.423 c -7.860 -13.614 -22.385 -22.0 -38.105 -22.0 c -15.720 0 -30.245 8.386 -38.105 22.0 l -372.058 644.423 c -3.862 6.689 -5.895 14.276 -5.895 22.0 z" FillRule="NonZero"/>

</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path8" Fill="#FFFF0000">

<Path.Triggers>

<EventTrigger RoutedEvent="MouseEnter">

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<Storyboard>

<ColorAnimation To="Blue" SpeedRatio="2" Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" />

</Storyboard>

</BeginStoryboard>

</EventTrigger>

<EventTrigger RoutedEvent="MouseLeave">

<BeginStoryboard>

<Storyboard>

<ColorAnimation SpeedRatio="2" Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" />

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Path.Triggers>

<Path.Data>

<PathGeometry Figures="m 10 689.423 c 0 19.330 15.670 35 35 35 l 744.116 0 c 19.330 0 35 -15.670 35 -35 c 0 -6.144 -1.617 -12.179 -4.689 -17.5 l -372.058 -644.423 c -6.252 -10.829 -17.807 -17.5 -30.311 -17.5 c -12.504 0 -24.059 6.671 -30.311 17.5 l -372.058 644.423 c -3.072 5.321 -4.689 11.357 -4.689 17.5 z m 83.634 -33.852 c 0 -1.755 0.462 -3.480 1.340 -5.000 l 313.424 -542.866 c 1.786 -3.094 5.087 -5 8.660 -5.000 c 3.573 0 6.873 1.906 8.660 5.000 l 313.424 542.866 c 0.878 1.520 1.340 3.245 1.340 5.000 c 0 5.523 -4.477 10 -10 10 l -626.848 0 c -5.523 0 -10 -4.477 -10 -10 z" FillRule="NonZero"/>

</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path10" Fill="#FF000000">

<Path.Data>

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</Path.Data>

</Path>

</Canvas>

</StackPanel>

</Viewbox>

<Viewbox Grid.Row="1" xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation" Stretch="Uniform">

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<StackPanel.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

<TranslateTransform X="0" Y="0" />

</TransformGroup>

</StackPanel.RenderTransform>

<StackPanel.Triggers>

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleX">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="1"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleY">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="1"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[1].X">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="0"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2500"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2500"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="0"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="-500"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="-500"/>

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</BeginStoryboard>

</EventTrigger>

</StackPanel.Triggers>

<Canvas Name="svg13" Width="700" Height="700">

<Canvas.Resources>

<EllipseGeometry xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" x:Key="clipPath" Center="350,350" RadiusX="330" RadiusY="330">

<EllipseGeometry.Transform>

<ScaleTransform ScaleX="0.885714285" ScaleY="0.885714285"/>

</EllipseGeometry.Transform>

</EllipseGeometry>

</Canvas.Resources>

<Ellipse xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Canvas.Left="0" Canvas.Top="0" Width="700" Height="700" Name="circle4" Fill="#FFFFFFFF"/>

<Ellipse xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Canvas.Left="1" Canvas.Top="1" Width="698" Height="698" Name="circle6" StrokeThickness="2" Stroke="#FF000000"/>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path11" Fill="#FF0D69E1" Clip="{StaticResource clipPath}">

<Path.Triggers>

<EventTrigger RoutedEvent="MouseEnter">

<BeginStoryboard>

<Storyboard>

<ColorAnimation To="Green" Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" SpeedRatio="2" />

</Storyboard>

</BeginStoryboard>

</EventTrigger>

<EventTrigger RoutedEvent="MouseLeave">

<BeginStoryboard>

<Storyboard>

<ColorAnimation Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" SpeedRatio="2"/>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Path.Triggers>

<Path.Data>

<PathGeometry Figures="m 0 42.43 v 577.57 h 620 v -620 h -577.57 l 352.43 352.43 l 35.36 -35.36 l 41.48 154.63 l -154.63 -41.48 l 35.36 -35.36 z" FillRule="NonZero"/>

</Path.Data>

<Path.RenderTransform>

<ScaleTransform ScaleX="1.12903226" ScaleY="1.12903226"/>

</Path.RenderTransform>

</Path>

</Canvas>

</StackPanel>

</Viewbox>

<Viewbox Grid.Row="2" xmlns="http://schemas.microsoft.com/winfx/2006/xaml/presentation" Stretch="Uniform">

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<StackPanel.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

<TranslateTransform X="0" Y="0" />

</TransformGroup>

</StackPanel.RenderTransform>

<StackPanel.Triggers>

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleX">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="1"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleY">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="1"/>

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2500"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2500"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="0"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="-1500"/>

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</EventTrigger>

</StackPanel.Triggers>

<Canvas Name="svg2651" Width="834.12" Height="734.42">

<Canvas.Resources/>

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<Path.Data>

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</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path2645" StrokeThickness="2" Stroke="#FF000000">

<Path.Data>

<PathGeometry Figures="m 789.12 733.42 a 44 44 0 0 0 44 -44 a 44 44 0 0 0 -5.89 -22 l -372.06 -644.42 a 44 44 0 0 0 -38.11 -22 a 44 44 0 0 0 -38.11 22 l -372.06 644.42 a 44 44 0 0 0 -5.89 22 a 44 44 0 0 0 44 44 z" FillRule="NonZero"/>

</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path2647" Fill="#FFFF0000">

<Path.Triggers>

<EventTrigger RoutedEvent="MouseEnter">

<BeginStoryboard>

<Storyboard>

<ColorAnimation To="Yellow" Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" SpeedRatio="2" />

</Storyboard>

</BeginStoryboard>

</EventTrigger>

<EventTrigger RoutedEvent="MouseLeave">

<BeginStoryboard>

<Storyboard>

<ColorAnimation Storyboard.TargetProperty="Fill.(SolidColorBrush.Color)" SpeedRatio="2"/>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Path.Triggers>

<Path.Data>

<PathGeometry Figures="m 789.12 724.42 a 35 35 0 0 0 35 -35 a 35 35 0 0 0 -4.69 -17.50 l -372.06 -644.42 a 35 35 0 0 0 -30.31 -17.50 a 35 35 0 0 0 -30.31 17.50 l -372.06 644.42 a 35 35 0 0 0 -4.69 17.50 a 35 35 0 0 0 35 35 z m -685.48 -58.85 a 10 10 0 0 1 -10 -10 a 10 10 0 0 1 1.34 -5 l 313.42 -542.87 a 10 10 0 0 1 8.66 -5 a 10 10 0 0 1 8.66 5 l 313.42 542.87 a 10 10 0 0 1 1.34 5 a 10 10 0 0 1 -10 10 z" FillRule="NonZero"/>

</Path.Data>

</Path>

<Path xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml" Name="path2649" Fill="#FF000000">

<Path.Data>

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</Path.Data>

</Path>

</Canvas>

</StackPanel>

</Viewbox>

<Image Grid.Row="0" Grid.Column="1" Source="/NewFolder1/RU\_road\_sign\_1.6.png" >

<Image.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

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</TransformGroup>

</Image.RenderTransform>

<Image.Triggers >

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

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</BeginStoryboard>

</EventTrigger>

</Image.Triggers>

</Image>

<Image Grid.Row="1" Grid.Column="1" Source="/NewFolder1/RU\_road\_sign\_4.2.1.png" >

<Image.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

<TranslateTransform X="0" Y="0" />

</TransformGroup>

</Image.RenderTransform>

<Image.Triggers >

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

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<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[1].X">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="0"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="250"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="250"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="0"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[1].Y">

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="-100"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="-100"/>

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</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Image.Triggers>

</Image>

<Image Grid.Row="2" Grid.Column="1" Source="/NewFolder1/RU\_road\_sign\_2.3.3.png">

<Image.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleX="1" ScaleY="1" />

<TranslateTransform X="0" Y="0" />

</TransformGroup>

</Image.RenderTransform>

<Image.Triggers>

<EventTrigger RoutedEvent="MouseDown">

<BeginStoryboard>

<Storyboard>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleX">

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[0].ScaleY">

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<LinearDoubleKeyFrame KeyTime="0:0:1" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="2.5"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="1"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.Children[1].X">

<LinearDoubleKeyFrame KeyTime="0:0:0" Value="0"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="250"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="250"/>

<LinearDoubleKeyFrame KeyTime="0:0:4" Value="0"/>

</DoubleAnimationUsingKeyFrames>

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<LinearDoubleKeyFrame KeyTime="0:0:0" Value="0"/>

<LinearDoubleKeyFrame KeyTime="0:0:1" Value="-250"/>

<LinearDoubleKeyFrame KeyTime="0:0:3" Value="-250"/>

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</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Image.Triggers>

</Image>

<Canvas Grid.RowSpan="3" Grid.Column="2">

</Canvas>

</Grid>

</Window>

Задание 2:

<Window x:Class="РПМ\_ЛР9.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:РПМ\_ЛР9"

mc:Ignorable="d"

Title="MainWindow" Height="700" Width="1100">

<Window.Resources>

<PathGeometry x:Key="Animation">

<PathFigure StartPoint="500,500">

<QuadraticBezierSegment Point1="200,250" Point2="200,200"/>

<BezierSegment Point1="200,100" Point2="800,100" Point3="800, 200"/>

<QuadraticBezierSegment Point1="800,250" Point2="500,500"/>

</PathFigure>

</PathGeometry>

</Window.Resources>

<Canvas>

<Path Stroke="Black" StrokeThickness="10" Data="{StaticResource Animation}"/>

<!-- Viewbox 1 -->

<Viewbox Canvas.Top="-1000" Canvas.Left="-1000" Width="100">

<Image Source="/фото/00-00060411-1-515Wx515H.jpg" />

<Viewbox.RenderTransform>

<ScaleTransform ScaleX="2" ScaleY="2"/>

</Viewbox.RenderTransform>

<Viewbox.Triggers>

<EventTrigger RoutedEvent="Loaded">

<BeginStoryboard>

<Storyboard BeginTime="0:0:1" RepeatBehavior="Forever">

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Left)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="X"/>

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Top)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="Y"/>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="Opacity">

<LinearDoubleKeyFrame Value="0.25" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleX">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleY">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Viewbox.Triggers>

</Viewbox>

<!-- Viewbox 2 -->

<Viewbox Canvas.Top="-1000" Width="100">

<Image Source="/фото/images.jpg" />

<Viewbox.RenderTransform>

<ScaleTransform ScaleX="2" ScaleY="2"/>

</Viewbox.RenderTransform>

<Viewbox.Triggers>

<EventTrigger RoutedEvent="Loaded">

<BeginStoryboard>

<Storyboard BeginTime="0:0:2" RepeatBehavior="Forever">

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Left)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="X"/>

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Top)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="Y"/>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="Opacity">

<LinearDoubleKeyFrame Value="0.25" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleX">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleY">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Viewbox.Triggers>

</Viewbox>

<!-- Viewbox 3 -->

<Viewbox Canvas.Top="-1000" Width="100">

<Image Source="/фото/Без имени.jpg" />

<Viewbox.RenderTransform>

<ScaleTransform ScaleX="2" ScaleY="2"/>

</Viewbox.RenderTransform>

<Viewbox.Triggers>

<EventTrigger RoutedEvent="Loaded">

<BeginStoryboard>

<Storyboard BeginTime="0:0:3" RepeatBehavior="Forever">

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Left)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="X"/>

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Top)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="Y"/>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="Opacity">

<LinearDoubleKeyFrame Value="0.25" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleX">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleY">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Viewbox.Triggers>

</Viewbox>

<!-- Viewbox 4 -->

<Viewbox Canvas.Top="-1000" Width="100">

<Image Source="/фото/клав.jpg" />

<Viewbox.RenderTransform>

<ScaleTransform ScaleX="2" ScaleY="2"/>

</Viewbox.RenderTransform>

<Viewbox.Triggers>

<EventTrigger RoutedEvent="Loaded">

<BeginStoryboard>

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<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Left)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="X"/>

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Top)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="Y"/>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="Opacity">

<LinearDoubleKeyFrame Value="0.25" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleX">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleY">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Viewbox.Triggers>

</Viewbox>

<!-- Viewbox 5 -->

<Viewbox Canvas.Top="-1000" Width="100">

<Image Source="/фото/ноут.jpg" />

<Viewbox.RenderTransform>

<ScaleTransform ScaleX="2" ScaleY="2"/>

</Viewbox.RenderTransform>

<Viewbox.Triggers>

<EventTrigger RoutedEvent="Loaded">

<BeginStoryboard>

<Storyboard BeginTime="0:0:5" RepeatBehavior="Forever">

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Left)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="X"/>

<DoubleAnimationUsingPath Storyboard.TargetProperty="(Canvas.Top)" Duration="0:0:5" PathGeometry="{StaticResource Animation}" Source="Y"/>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="Opacity">

<LinearDoubleKeyFrame Value="0.25" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleX">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

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</DoubleAnimationUsingKeyFrames>

<DoubleAnimationUsingKeyFrames Storyboard.TargetProperty="RenderTransform.ScaleY">

<LinearDoubleKeyFrame Value="1" KeyTime="0:0:2.5"/>

<LinearDoubleKeyFrame Value="2" KeyTime="0:0:5"/>

</DoubleAnimationUsingKeyFrames>

</Storyboard>

</BeginStoryboard>

</EventTrigger>

</Viewbox.Triggers>

</Viewbox>

</Canvas>

</Window>