<Window x:Class="AllWorksWPFNurbai.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:AllWorksWPFNurbai"

mc:Ignorable="d"

Title="Midterm" Height="500" Width="520">

<Window.Resources>

<GeometryGroup x:Key="Clown">

<!--Head and hat-->

<PathGeometry>

<PathFigure IsClosed="True" StartPoint="40,0">

<LineSegment Point="70,100"/>

<ArcSegment Point="70,110" IsLargeArc="True"

Size="10,10"

SweepDirection="Clockwise"/>

<ArcSegment Point="10,110"

Size="30,30"

SweepDirection="Clockwise"/>

<ArcSegment Point="10,100" IsLargeArc="True"

Size="10,10" SweepDirection="Clockwise"/>

</PathFigure>

</PathGeometry>

<!--Hat buttons-->

<EllipseGeometry Center="40,40" RadiusX="2"

RadiusY="2"/>

<EllipseGeometry Center="40,50" RadiusX="2"

RadiusY="2"/>

<EllipseGeometry Center="40,60" RadiusX="2"

RadiusY="2"/>

<!--Eyes-->

<EllipseGeometry Center="30,100" RadiusX="3"

RadiusY="2"/>

<EllipseGeometry Center="50,100" RadiusX="3"

RadiusY="2"/>

<!--Nose-->

<EllipseGeometry Center="40,110" RadiusX="3"

RadiusY="2"/>

<!--Mouth-->

<RectangleGeometry Rect="30,120 20,10"/>

</GeometryGroup>

</Window.Resources>

<Grid>

<Grid.RowDefinitions>

<RowDefinition Height="Auto"/>

<RowDefinition/>

</Grid.RowDefinitions>

<Menu Grid.Row="0">

<MenuItem Header="File">

<MenuItem Header="New">

<MenuItem.Icon>

<Image Source="Images/newFolder.png"/>

</MenuItem.Icon>

</MenuItem>

<MenuItem Header="Open">

<MenuItem.Icon>

<Image Source="Images/openFolder.png"/>

</MenuItem.Icon>

</MenuItem>

<MenuItem Header="Close" Click="ExitIsClicked">

<MenuItem.Icon>

<Image Source="Images/closeFolder.png"/>

</MenuItem.Icon>

</MenuItem>

</MenuItem>

<MenuItem Header="Edit">

<MenuItem Header="Copy">

<MenuItem.Icon>

<Image Source="Images2/Copy.png"/>

</MenuItem.Icon>

</MenuItem>

<MenuItem Header="Paste">

<MenuItem.Icon>

<Image Source="Images2/Paste.png"/>

</MenuItem.Icon>

</MenuItem>

<MenuItem Header="Cut">

<MenuItem.Icon>

<Image Source="Images2/Cut.png"/>

</MenuItem.Icon>

</MenuItem>

</MenuItem>

<MenuItem Header="About program" Click="AboutProgram"/>

</Menu>

<TabControl Grid.Row="1">

<TabItem Header="Basic shapes">

<Grid>

<Label Content="Basic shapes" FontSize="32"

HorizontalAlignment="Center"/>

<UniformGrid Columns="3" HorizontalAlignment="Center"

VerticalAlignment="Center">

<Rectangle Width="70" Height="60" Stroke= "Blue"

StrokeThickness="3"/>

<Rectangle Width="70" Height="60" Stroke= "Black"

StrokeThickness="3"

RadiusX="10" RadiusY="10"/>

<Rectangle Width="60" Height="90" Stroke= "Green"

StrokeThickness="3"

RadiusX="10" RadiusY="10"/>

<Ellipse Stroke= "Green" StrokeThickness="3" Height="100" Width="70"/>

<Ellipse Stroke= "Red" StrokeThickness="2" Height="50" Width="60"/>

<Ellipse Stroke= "Black" StrokeThickness="1" Height="70"

Width="100"/>

<Polygon Stroke= "Black" StrokeThickness="1" Points="40,10

70,80 10,80"/>

<Polygon Stroke= "Black" StrokeThickness="1" Points="20,0

60,0 80,20 80,60

60,80 20,80 0,60 0,20"/>

<Polygon Stroke= "Black" StrokeThickness="1" Points="20,0

50,10 50,50 80,60

60,80 0,20"/>

</UniformGrid>

</Grid>

</TabItem>

<TabItem Header="Transforms">

<Grid>

<Grid.RowDefinitions>

<RowDefinition Height="Auto"/>

<RowDefinition Height="Auto"/>

</Grid.RowDefinitions>

<Label Content="Scale, Skew and Rotate" FontSize="32"

HorizontalAlignment="Center" Grid.Row="0"/>

<Label Content="Streched Text" FontSize="25"

Foreground= "LightGreen"

HorizontalAlignment="Center" VerticalAlignment="Top"

Margin="20" Grid.Row="1">

<Label.RenderTransform>

<TransformGroup>

<ScaleTransform ScaleY="3"/>

<SkewTransform AngleX="20"/>

<RotateTransform Angle="20"/>

</TransformGroup>

</Label.RenderTransform>

</Label>

</Grid>

</TabItem>

<TabItem Header="Complex shapes">

<StackPanel>

<Label Content="Complex shapes" FontSize="32"

HorizontalAlignment="Center" Grid.Row="0"/>

<Canvas Margin="10">

<Path Canvas.Left="45" Stroke= "Black" StrokeThickness="3" Data="{StaticResource Clown}">

</Path>

</Canvas>

</StackPanel>

</TabItem>

<TabItem Header="Using complex shapes">

<UniformGrid Columns="3">

<Path Stroke="Black" StrokeThickness="3" Data="{StaticResource Clown}" Margin="5" ToolTip="Clown"/>

<Path Stroke="Red" StrokeThickness="3" Data="{StaticResource Clown}" Margin="5" Fill="LightGray" ToolTip="USer2"/>

<Path Stroke="Yellow" StrokeThickness="3" Data="{StaticResource Clown}" Margin="5" StrokeDashArray="1 1" Fill="Green" ToolTip="NewUser"/>

</UniformGrid>

</TabItem>

<TabItem Header="Animation">

<Grid>

<Grid.ColumnDefinitions>

<ColumnDefinition Width="316\*"/>

<ColumnDefinition Width="191\*"/>

</Grid.ColumnDefinitions>

<Grid.RowDefinitions>

<RowDefinition Height="Auto"/>

<RowDefinition/>

</Grid.RowDefinitions>

<Label Content="Animation" FontSize="30"

HorizontalAlignment="Center" Grid.Row="0" Grid.ColumnSpan="2" Margin="175,0"/>

<Border BorderBrush="Gray" Margin="5" BorderThickness="1" Grid.Row="1" Grid.ColumnSpan="2">

<Canvas>

<Rectangle Fill="Gray" Width="490" Height="5" Canvas.Top="60"/>

<Ellipse x:Name="aBall1" Width="50" Height="50"

Stroke="Blue" Canvas.Top="10" Canvas.Left="0">

<Ellipse.Fill>

<RadialGradientBrush GradientOrigin="0.75, 0.25">

<GradientStop Color="LightBlue" Offset="0"/>

<GradientStop Color="Blue" Offset="1"/>

</RadialGradientBrush>

</Ellipse.Fill>

<Ellipse.RenderTransform>

<RotateTransform x:Name="ball1IsRotated" CenterX="25" CenterY="25"/>

</Ellipse.RenderTransform>

</Ellipse>

<Line X1="0" Y1="0" X2="490" Y2="0" Stroke="Gray" Canvas.Top="140" StrokeThickness="5"/>

<Ellipse x:Name="aBall2" Width="50" Height="50"

Stroke="Black" Canvas.Top="90" Canvas.Left="0">

<Ellipse.Fill>

<RadialGradientBrush GradientOrigin="0.75, 0.25">

<GradientStop Color="LightCoral" Offset="0"/>

<GradientStop Color="Red" Offset="1"/>

</RadialGradientBrush>

</Ellipse.Fill>

<Ellipse.RenderTransform>

<RotateTransform x:Name="aBall2IsRotated" CenterX="25" CenterY="25"/>

</Ellipse.RenderTransform>

</Ellipse>

<Line X1="0" Y1="0" X2="490" Y2="0" Stroke="Gray" Canvas.Top="220" StrokeThickness="5"/>

<Ellipse x:Name="aBall3" Width="50" Height="50"

Stroke="Green" Canvas.Top="170" Canvas.Left="0">

<Ellipse.Fill>

<RadialGradientBrush GradientOrigin="0.75, 0.25">

<GradientStop Color="Red" Offset="0"/>

<GradientStop Color="Black" Offset="1"/>

</RadialGradientBrush>

</Ellipse.Fill>

<Ellipse.RenderTransform>

<RotateTransform x:Name="aBall3IsRotated" CenterX="25" CenterY="25"/>

</Ellipse.RenderTransform>

</Ellipse>

<Line X1="0" Y1="0" X2="490" Y2="0" Stroke="Gray" Canvas.Top="300" StrokeThickness="5"/>

<Ellipse x:Name="aBall4" Width="50" Height="50"

Stroke="Yellow" Canvas.Top="250" Canvas.Left="0">

<Ellipse.Fill>

<RadialGradientBrush GradientOrigin="0.75, 0.25">

<GradientStop Color="LightYellow" Offset="0"/>

<GradientStop Color="Purple" Offset="1"/>

</RadialGradientBrush>

</Ellipse.Fill>

<Ellipse.RenderTransform>

<RotateTransform x:Name="aBall4IsRotated" CenterX="25" CenterY="25"/>

</Ellipse.RenderTransform>

</Ellipse>

</Canvas>

</Border>

</Grid>

</TabItem>

</TabControl>

</Grid>

</Window>

………….

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;

using System.Windows.Media.Animation;

namespace AllWorksWPFNurbai

{

/// <summary>

/// Interaction logic for MainWindow.xaml

/// </summary>

public partial class MainWindow : Window

{

public MainWindow()

{

InitializeComponent();

StartRolling();

}

private void StartRolling()

{

DoubleAnimation da = new DoubleAnimation(0, 440, TimeSpan.FromSeconds(3));

da.RepeatBehavior = RepeatBehavior.Forever;

da.DecelerationRatio = 0.6;

da.AccelerationRatio = 0.4;

aBall1.BeginAnimation(Canvas.LeftProperty, da);

da.AutoReverse = true;

double nRotation = 360 \* 440 / 2 / Math.PI / 25;

da = new DoubleAnimation(0, nRotation, TimeSpan.FromSeconds(3));

da.RepeatBehavior = RepeatBehavior.Forever;

da.AutoReverse = true;

DoubleAnimation da2 = new DoubleAnimation(0, 440, TimeSpan.FromSeconds(4));

da2.RepeatBehavior = RepeatBehavior.Forever;

aBall2.BeginAnimation(Canvas.LeftProperty, da2);

da2.AutoReverse = true;

double nRotation2 = 360 \* 440 / 2 / Math.PI / 25;

da2 = new DoubleAnimation(0, nRotation2, TimeSpan.FromSeconds(4));

da2.RepeatBehavior = RepeatBehavior.Forever;

da2.AutoReverse = true;

DoubleAnimation da3 = new DoubleAnimation(0, 440, TimeSpan.FromSeconds(2));

da3.RepeatBehavior = RepeatBehavior.Forever;

da3.DecelerationRatio = 1;

aBall3.BeginAnimation(Canvas.LeftProperty, da3);

da3.AutoReverse = true;

double nRotation3 = 360 \* 440 / 2 / Math.PI / 25;

da3 = new DoubleAnimation(0, nRotation3, TimeSpan.FromSeconds(5));

da3.RepeatBehavior = RepeatBehavior.Forever;

da3.AutoReverse = true;

DoubleAnimation da4 = new DoubleAnimation(0, 440, TimeSpan.FromSeconds(5));

da4.RepeatBehavior = RepeatBehavior.Forever;

da4.AccelerationRatio = 1;

aBall4.BeginAnimation(Canvas.LeftProperty, da4);

da4.AutoReverse = true;

double nRotation4 = 360 \* 440 / 2 / Math.PI / 25;

da4 = new DoubleAnimation(0, nRotation4, TimeSpan.FromSeconds(4));

da4.RepeatBehavior = RepeatBehavior.Forever;

da4.AutoReverse = true;

ball1IsRotated.BeginAnimation(RotateTransform.AngleProperty, da);

aBall2IsRotated.BeginAnimation(RotateTransform.AngleProperty, da2);

aBall3IsRotated.BeginAnimation(RotateTransform.AngleProperty, da3);

aBall4IsRotated.BeginAnimation(RotateTransform.AngleProperty, da4);

}

private void ExitIsClicked(object sender, RoutedEventArgs e)

{

Close();

}

private void AboutProgram(object sender, RoutedEventArgs e)

{

MessageBox.Show("This program is made by Nurbai.\n@Copyright mamytov.nurbai@keiin.kg \n15.11.21");

}

}

}