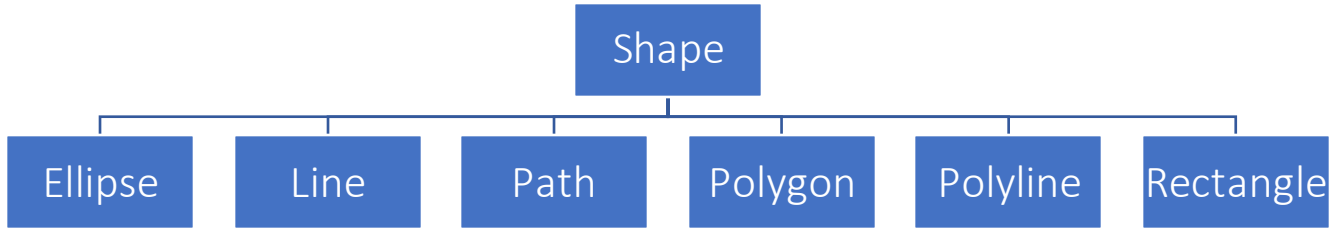
Shapes e Trasformazioni

Shapes

Shape è un tipo di elemento UI che consente di disegnare una forma sullo schermo.

Poiché sono elementi dell'interfaccia utente, gli oggetti Shape possono essere usati all'interno dei diversi containers visti precedentemente.

Windows Presentation Foundation (WPF) offre diversi livelli di accesso ai servizi grafici e di rendering.



Proprietà comuni

Di seguito sono elencate alcune proprietà comuni a tutti gli oggetti shape:

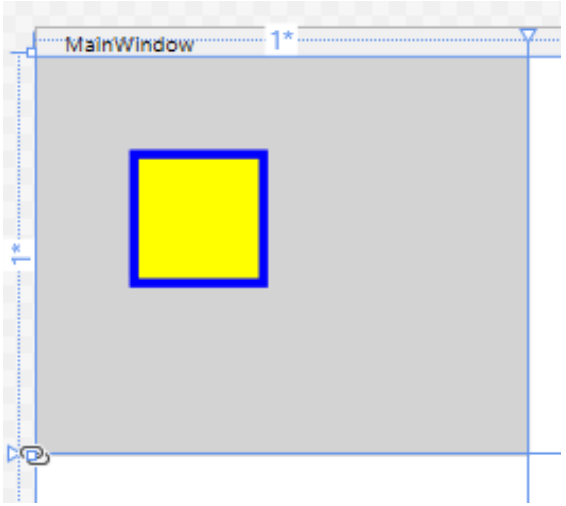
- Stroke: descrive come viene dipinto il contorno della forma.
- StrokeThickness: descrive lo spessore della struttura della forma.
- Fill: descrive come viene dipinto l'interno della forma.

Canvas

Il canvas è una scelta particolarmente adatta per la creazione di disegni complessi perché supporta la posizione assoluta degli oggetti figlio.

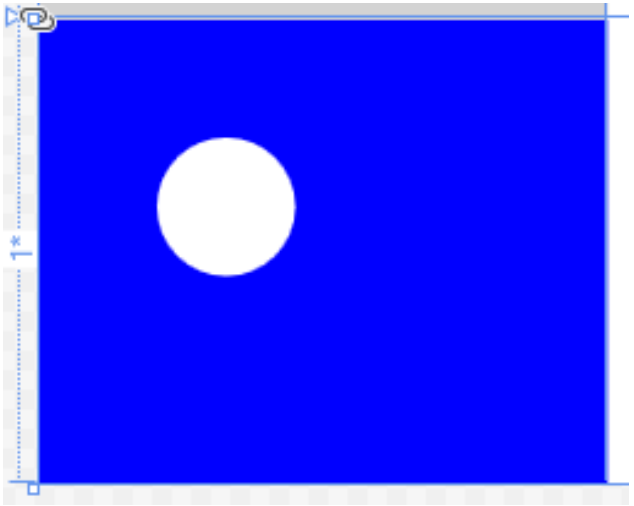
Esempio - Rectangle

```
<Canvas Background="LightGray" Grid.Column="0" Grid.Row="0">
        <Rectangle
           Canvas.Top="50"
           Canvas.Left="50"
           Fill="#FFFFFF00"
           Height="75"
           Width="75"
           StrokeThickness="5"
           Stroke="#FF0000FF"/>
    </Canvas>
```



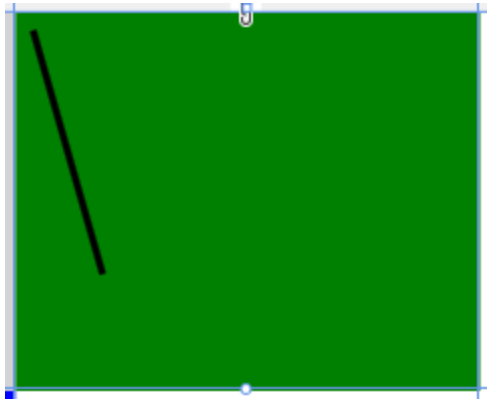
Esempio - Rectangle

```
<Canvas Background="Blue" Grid.Column="0" Grid.Row="1">
        <Ellipse
            Canvas.Top="50"
            Canvas.Left="50"
            Fill="White"
            Height="75"
            Width="75"
            StrokeThickness="5"
            Stroke="#FF0000FF"/>
    </Canvas>
```



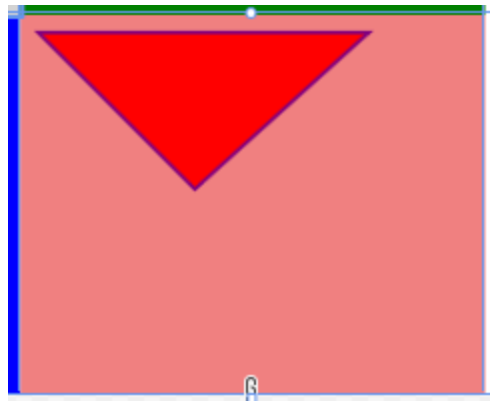
Esempio - Line

```
<Canvas Background="Green" Grid.Column="1" Grid.Row="0">
        <Line
           X1="10" Y1="10"
           X2="50" Y2="150"
           Stroke="Black"
           StrokeThickness="4"/>
</Canvas>
```

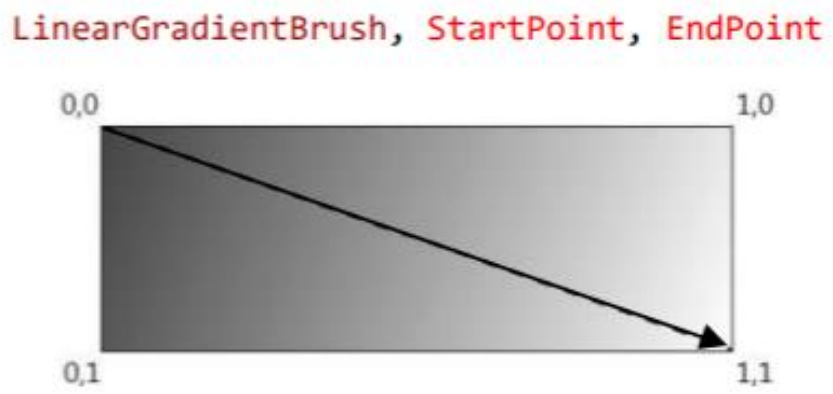


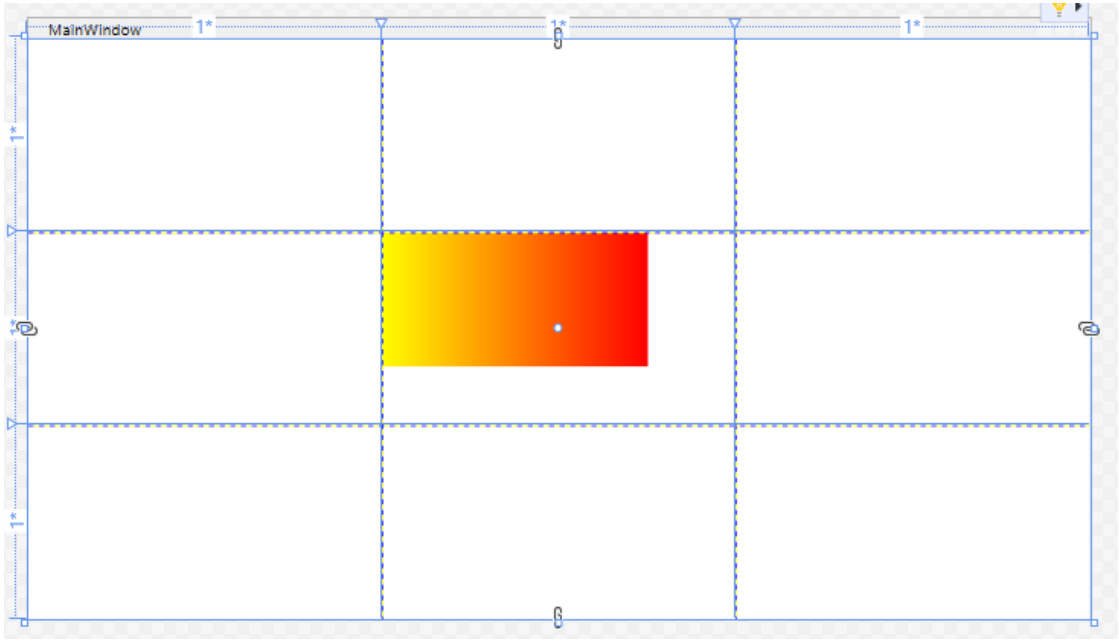
Esempio - Polygon

```
<Canvas Background="LightCoral" Grid.Column="1" Grid.Row="1">
        <Polygon
            Points="10,10,200,10,100,100"
            Stroke="Purple"
            StrokeThickness="2"
            Fill="Red"/>
</Canvas>
```



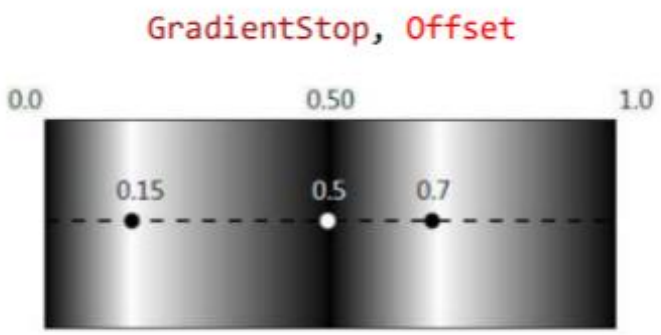
Esempio – Gradient Linear

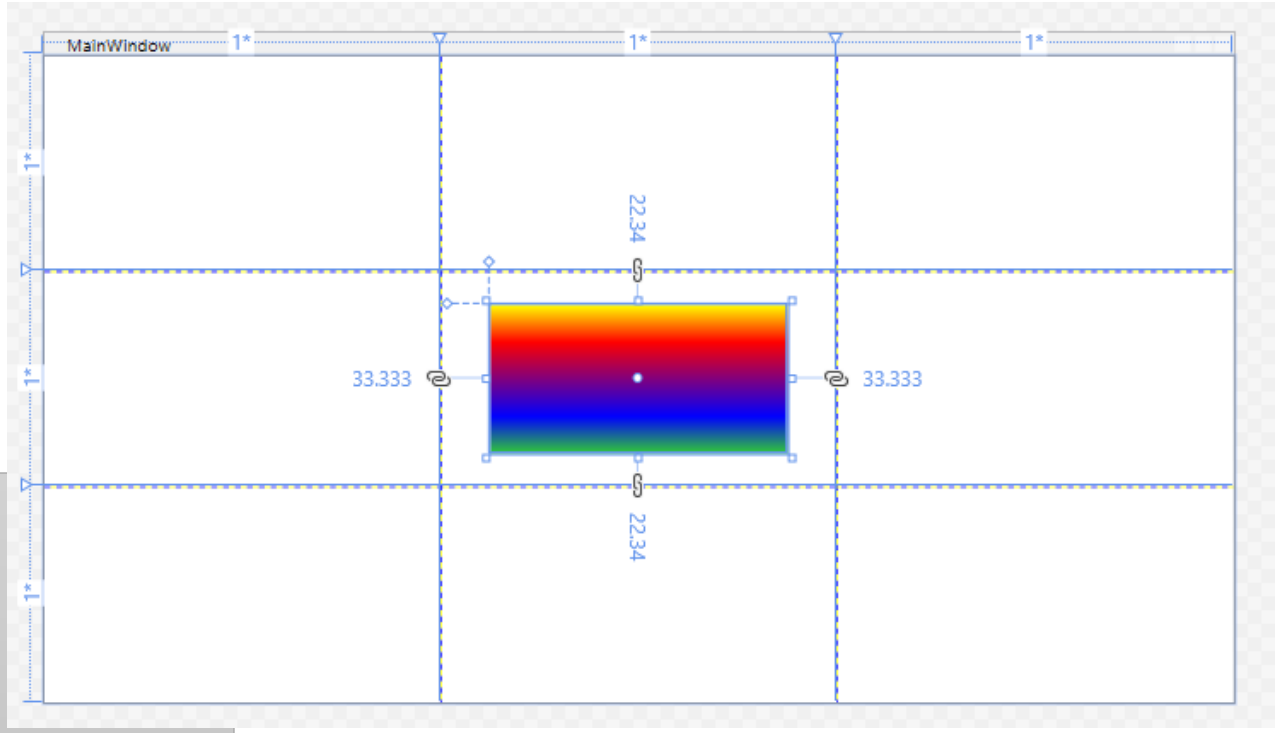





```
<Canvas Grid.Column="1" Grid.Row="1" >
    <Rectangle Width="200" Height="100">
        <Rectangle.Fill>
            <LinearGradientBrush StartPoint="0,0.5" EndPoint="1,0.5">
                <GradientStop Color="Yellow" Offset="0.0" />
                 <GradientStop Color="Red" Offset="1.0" />
             </LinearGradientBrush>
         </Rectangle.Fill>
     </Rectangle>
</Canvas>
```

Esempio – Gradient Stop






```
<Rectangle Width="200" Height="100" Grid.Column="1"  Grid.Row="1">
        <Rectangle.Fill>
          <LinearGradientBrush StartPoint="0.5,0" EndPoint="0.5,1">
            <GradientStop Color="Yellow" Offset="0.0" />
            <GradientStop Color="Red" Offset="0.25" />
            <GradientStop Color="Blue" Offset="0.75" />
            <GradientStop Color="LimeGreen" Offset="1.0" />
          </LinearGradientBrush>
        </Rectangle.Fill>
</Rectangle>
```

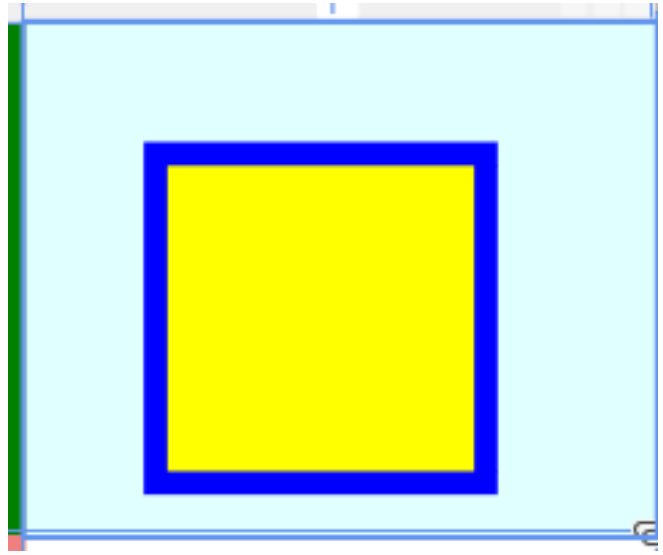
Trasformazioni

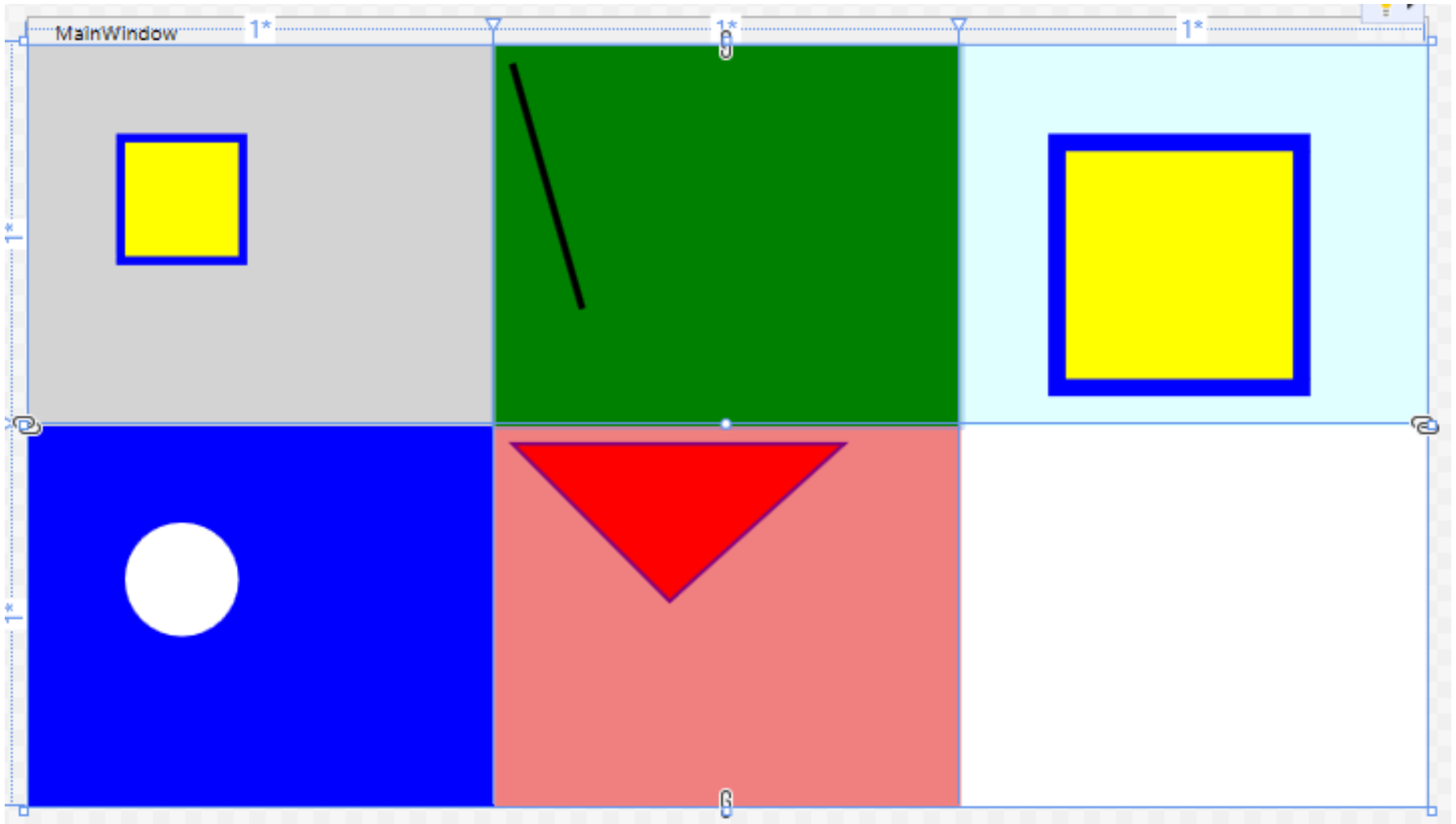
La classe Transform fornisce i mezzi per trasformare le forme su un piano bidimensionale (piano cartesiano).

I diversi tipi di trasformazione includono rotazione (), scala (), asimmetria (RotateTransformScaleTransform)
e traslazione (SkewTransformTranslateTransform).

Esempio - Scale

```
<Canvas Background="LightCyan" Grid.Column="2" Grid.Row="0">
  <Rectangle
    Canvas.Top="50"
    Canvas.Left="50"
    Fill="#FFFFFF00"
    Height="75"
    Width="75"
    StrokeThickness="5"
    Stroke="#FF0000FF">
    <Rectangle.RenderTransform>
      <ScaleTransform CenterX="0" CenterY="0" ScaleX="2" ScaleY="2" />
        </Rectangle.RenderTransform>
  </Rectangle>
</Canvas>
```




MainWindow
1*
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