

五專資工三甲

視窗程式設計

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```

... \repos\shengyunn\C_SHAP_APP\WpfApp1\MainWindow.xaml 1
1 <Window x:Class="WpfApp1.MainWindow"
2     xmlns="http://schemas.microsoft.com/winfx/2006/xaml/
    presentation"
3     xmlns:x="http://schemas.microsoft.com/winfx/2006/xaml"
4     xmlns:d="http://schemas.microsoft.com/expression/blend/2008"
5     xmlns:mc="http://schemas.openxmlformats.org/markup-
    compatibility/2006"
6     xmlns:local="clr-namespace:WpfApp1"
7     mc:Ignorable="d"
8     Title="MainWindow" Height="450" Width="800">
9     <Grid>
10         <TextBox HorizontalAlignment="Left" Margin="198,122,0,0"
            TextWrapping="Wrap" Text="" Name="TextBox01"
            VerticalAlignment="Top" Width="100" Height="40"
            TextAlignment="Center" FontSize="18"
            PreviewKeyDown="TextBox_PreviewKeyDown"/>
11         <TextBox HorizontalAlignment="Left" Margin="198,184,0,0"
            TextWrapping="Wrap" Text="" Name="TextBox02"
            VerticalAlignment="Top" Width="100" Height="40"
            TextAlignment="Center" FontSize="18"
            PreviewKeyDown="TextBox_PreviewKeyDown"/>
12         <TextBox HorizontalAlignment="Left" Margin="198,242,0,0"
            TextWrapping="Wrap" Text="" Name="TextBox03"
            VerticalAlignment="Top" Width="100" Height="40"
            TextAlignment="Center" FontSize="18"
            PreviewKeyDown="TextBox_PreviewKeyDown"/>
13         <Button Content="Submit" HorizontalAlignment="Left"
            Margin="198,321,0,0" VerticalAlignment="Top" Height="28"
            Width="100" Click="Button_Click"/>
14         <Label Content="輸入三個數值，判斷是否可以構成三角形"
            HorizontalAlignment="Center" Margin="0,24,0,0"
            VerticalAlignment="Top" Height="58" Width="481"
            HorizontalContentAlignment="Center"
            VerticalContentAlignment="Center" FontSize="22" FontFamily="Yu
            Gothic UI Semilight"/>
15         <TextBlock HorizontalAlignment="Left" Height="176"
            Margin="480,202,0,0" Name="Cout" VerticalAlignment="Top"
            Width="215" FontSize="16" TextAlignment="Center"
            TextWrapping="Wrap" Padding="0,0,0,10"
            UseLayoutRounding="True" ScrollViewer.CanContentScroll="True">
16             <TextBlock.Background>
17                 <SolidColorBrush Color="{DynamicResource {x:Static
                    SystemColors.AppWorkspaceColorKey}}"/>
18             </TextBlock.Background>
19         </TextBlock>
20
21         <Label Content="" HorizontalAlignment="Left"
            Margin="480,108,0,0" VerticalAlignment="Top" Height="67"
            Width="215" Name="ltest" Background="{DynamicResource
            {x:Static SystemColors.ActiveBorderBrushKey}}"
            HorizontalContentAlignment="Center"
            VerticalContentAlignment="Center" FontSize="16"
            Foreground="White" />

```

```
... \repos\shengyunn\C_SHAP_APP\WpfApp1\MainWindow.xaml 2
22      <Image HorizontalAlignment="Left" Height="100" ↗
      Margin="48,24,0,0" VerticalAlignment="Top" Width="100" ↗
      Source="/cat1.jpeg"/>
23
24      </Grid>
25 </Window>
26
```

```
1 using System;
2 using System.Collections.Generic;
3 using System.Windows;
4 using System.Windows.Controls;
5 using System.Windows.Input;
6 using System.Windows.Media;
7
8 namespace WpfApp1
9 {
10     /// <summary>
11     /// Interaction logic for MainWindow.xaml
12     /// </summary>
13     public partial class MainWindow : Window
14     {
15         List<Triangle> triangles = new List<Triangle>();
16         public MainWindow()
17         {
18             InitializeComponent();
19         }
20
21         private void Button_Click(object sender, RoutedEventArgs e)
22         {
23             Double numberA, numberB, numberC;
24
25             bool A1 = Double.TryParse(TextBox01.Text, out numberA);
26             bool B2 = Double.TryParse(TextBox02.Text, out numberB);
27             bool C3 = Double.TryParse(TextBox03.Text, out numberC);
28
29             if( !A1 || !B2 || !C3 || numberA <=0 || numberB <=0 ||
30                 numberC<=0)
31             {
32                 MessageBox.Show("請輸入正確數值不可小於0或是空白", "輸入錯
33                     誤");
34                 return;
35             }
36             Triangle triangle = new Triangle(numberA, numberB, numberC);
37             if (triangle.IsValid)
38             {
39                 ltest.Content = $"邊長 {numberA}, {numberB}, {numberC} 可
40                     以構成三角形";
41                 ltest.Background = Brushes.Green;
42             }
43             else
44             {
45                 ltest.Content = $"邊長 {numberA}, {numberB}, {numberC} 不
46                     可構成三角形";
47                 ltest.Background = Brushes.Red;
48             }
49             Cout.Text += $"{ltest.Content}\n";
50             TextboxReset();
51         }
52         private void TextBox_PreviewKeyDown(object sender, KeyEventArgs e)
```

```
e)
50     {
51         if (e.Key == Key.Enter)
52         {
53             // 防止換行
54             e.Handled = true;
55
56             // 尋找下一個 TextBox
57             TraversalRequest request = new TraversalRequest      ↗
58                 (FocusNavigationDirection.Next);
59             UIElement elementWithFocus = Keyboard.FocusedElement as ↗
60                 UIElement;
61             if (elementWithFocus != null)
62             {
63                 elementWithFocus.MoveFocus(request);
64             }
65         }
66     }
67
68     private void TextboxReset()
69     {
70         TextBox01.Text = "";
71         TextBox02.Text = "";
72         TextBox03.Text = "";
73     }
74 }
75
```

```
1 namespace WpfApp1
2 {
3     internal class Triangle
4     {
5         public double SideA { get; set; }
6         public double SideB { get; set; }
7         public double SideC { get; set; }
8         public bool IsValid { get; set; }
9         public string? Message { get; set; }
10
11         public Triangle(double a, double b, double c)
12         {
13             SideA = a;
14             SideB = b;
15             SideC = c;
16             IsValid = IsTriangleValid(a, b, c);
17         }
18
19         private bool IsTriangleValid(double a, double b, double c)
20         {
21             return (a + b > c) && (b + c > a) && (c + a > b);
22         }
23     }
24 }
25
```

