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Windows App SDK

Lucky Lotto





# Lucky Lotto

**Lucky Lotto** shows how you can generate randomised lottery numbers and display these using a control

from **NuGet** using the **Windows App SDK**.

## Step 1

Follow **Setup and Start** on how to get **Setup** and **Install** what you need for **Visual Studio 2022** and **Windows App SDK**.

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| In **Windows 11** choose **Start** and then find or search for **Visual Studio 2022** and then select it. | Text  Description automatically generated |
| Once **Visual Studio 2022** has started select **Create a new project**. | **Graphical user interface, text  Description automatically generated** |
| Then choose the **Blank App, Packages (WinUI in Desktop)** and then select **Next**. | **Graphical user interface, text  Description automatically generated** |
| After that in **Configure your new project** type in the **Project name** as *LuckyLotto*, then select a Location and then select **Create** to start a new **Solution**. | **Graphical user interface, text, application, email  Description automatically generated** |

## Step 2

Then in **Visual Studio** within **Solution** **Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Manage NuGet Packages…**

Graphical user interface, application

Description automatically generated

## Step 3

Then in the **NuGet Package Manager** from the **Browse** tab search for **Comentsys.Toolkit.WindowsAppSdk** and then select **Comentsys.Toolkit.WindowsAppSdk by Comentsys** as indicated and select **Install**

Graphical user interface, text, application, email

Description automatically generated

This will add the package for **Comentsys.Toolkit.WindowsAppSdk** to your **Project**. If you get the **Preview Changes** screen saying **Visual Studio is about to make changes to this solution. Click OK to proceed with the changes listed below.** You can read the message and then select **OK** to **Install** the package, then you can close the **tab** for **Nuget: LuckyLotto** by selecting the **x** next to it.

## Step 4

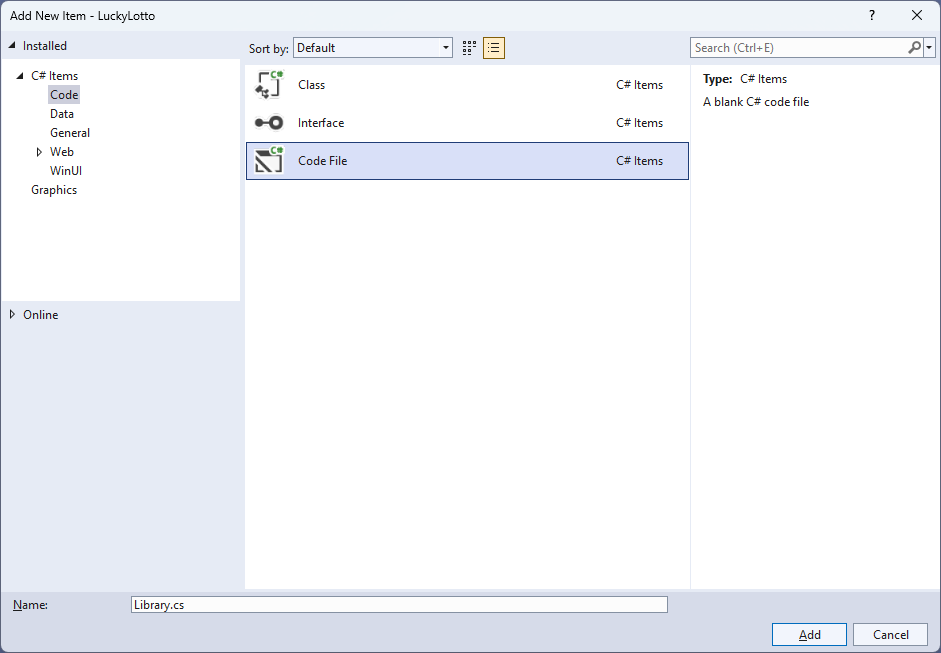
Then in **Visual Studio** within **Solution** **Explorer** for the **Solution**, right click on the **Project** shown below the **Solution** and then select **Add** then **New Item…**

Table

Description automatically generated with low confidence

## Step 5

Then in **Add New Item** from the **C# Items** list, select **Code** and then select **Code File** from the list next to this, then type in the name of *Library.cs* and then **Click** on **Add**.



## Step 6

You will now be in the **View** for the **Code** of *Library.cs*, within this first type the following **Code**:

using Comentsys.Toolkit.WindowsAppSdk;

using Microsoft.UI;

using Microsoft.UI.Xaml;

using Microsoft.UI.Xaml.Controls;

using Microsoft.UI.Xaml.Media;

using System;

using System.Collections.Generic;

using System.Linq;

using Windows.UI;

public class Library

{

private static readonly Dictionary<int, Color> \_style = new()

{

{ 0, Colors.White },

{ 10, Colors.RoyalBlue },

{ 20, Colors.HotPink },

{ 30, Colors.MediumSpringGreen },

{ 40, Colors.Gold },

{ 50, Colors.Indigo }

};

private readonly Random \_random = new((int)DateTime.UtcNow.Ticks);

private List<int> Choose(int minimum, int maximum, int total) =>

Enumerable.Range(minimum, maximum)

.OrderBy(r => \_random.Next(minimum, maximum))

.Take(total).ToList();

// Other Methods

}

The **Class** that has been defined in so far *Library.cs* has **using** for the packageof **Comentsys.Toolkit.WindowsAppSdk** amongst others needed. Then there is a **Dictionary** of **\_style** to represent the different **Colours** of **Lottery Balls** but it can be changed to match the numbers in your Country, these are the ones used in the UK and **Random** which will be used to select randomised numbers from. Then there is **Choose** which will generate an enumerable of numbers, in this case of **int** then it will use **Random** to shuffle them randomly and then can just return the amount of numbers needed, using **Take** and then convert this to a **List** that will be returned using **Arrow Syntax** with the **=>** for an expression body based **Method**.

## Step 7

While still in the **Class** for *Library.cs* and after the **Comment** of **// Other Methods** type in the following other **Methods**:

private void Add(StackPanel panel, int value)

{

Color style = \_style.Where(w => value > w.Key)

.Select(s => s.Value).LastOrDefault();

var piece = new Piece()

{

Foreground = new SolidColorBrush(Colors.Black),

Stroke = new SolidColorBrush(style),

Value = value.ToString()

};

panel.Children.Add(piece);

}

public void New(StackPanel panel)

{

panel.Children.Clear();

panel.CornerRadius = new CornerRadius(10);

panel.Background = new SolidColorBrush(Colors.WhiteSmoke);

var numbers = Choose(1, 59, 6);

numbers.Sort();

foreach (int number in numbers)

{

Add(panel, number);

}

}

The **Method** of **Add** will get a style as a **Color** using the **Dictionary** of **\_style** and the **value** passed in then it creates a **Piece** which is a control from **Comentsys.Toolkit.WindowsAppSdk** and this is added to the **StackPanel** that is passed into the **Method**. Then there is the **Method** of **New** which takes a **StackPanel** and sets this up, then some **numbers** are chosen using **Choose** and are sorted with **Sort** then each of these are added to the **StackPanel** using **Add**.

## Step 8

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| Then from **Solution** **Explorer** for the **Solution** double-click on **MainWindow.xaml** to see the **XAML** for the **Main Window**. |  |

## Step 9

In the **XAML** for **MainWindow.xaml** there be some **XAML** for a **StackPanel**, this should be **Removed** by removing the following:

<StackPanel Orientation="Horizontal"

HorizontalAlignment="Center" VerticalAlignment="Center">

<Button x:Name="myButton" Click="myButton\_Click">Click Me</Button>

</StackPanel>

## Step 10

While still in the **XAML** for **MainWindow.xaml** above **</Window>**, type in the following **XAML**:

<Grid>

<Viewbox>

<StackPanel Margin="50" Name="Display" Orientation="Horizontal"

HorizontalAlignment="Center" VerticalAlignment="Center" Loaded="New"/>

</Viewbox>

<CommandBar VerticalAlignment="Bottom">

<AppBarButton Icon="Page2" Label="New" Click="New"/>

</CommandBar>

</Grid>

This **XAML** contains a **Grid** with a **Viewbox** which will scale a **StackPanel**. It has a **Loaded** event handler for **New** which is also shared by the **AppBarButton**.

## Step 11

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| Then, within **Solution** **Explorer** for the **Solution** select the arrow next to **MainWindow.xaml** then double-click on **MainWindow.xaml.cs** to see the **Code** for the **Main Window**. |  |

## Step 12

In the **Code** for **MainWindow.xaml.cs** there be a **Method** of **myButton\_Click(...)** this should be **Removed** by removing the following:

private void myButton\_Click(object sender, RoutedEventArgs e)

{

myButton.Content = "Clicked";

}

## Step 13

Once **myButton\_Click(...)** has been removed, type in the following **Code** below the end of the **Constructor** of **public MainWindow() { ... }**:

private readonly Library \_library = new();

private void New(object sender, RoutedEventArgs e) =>

\_library.New(Display);

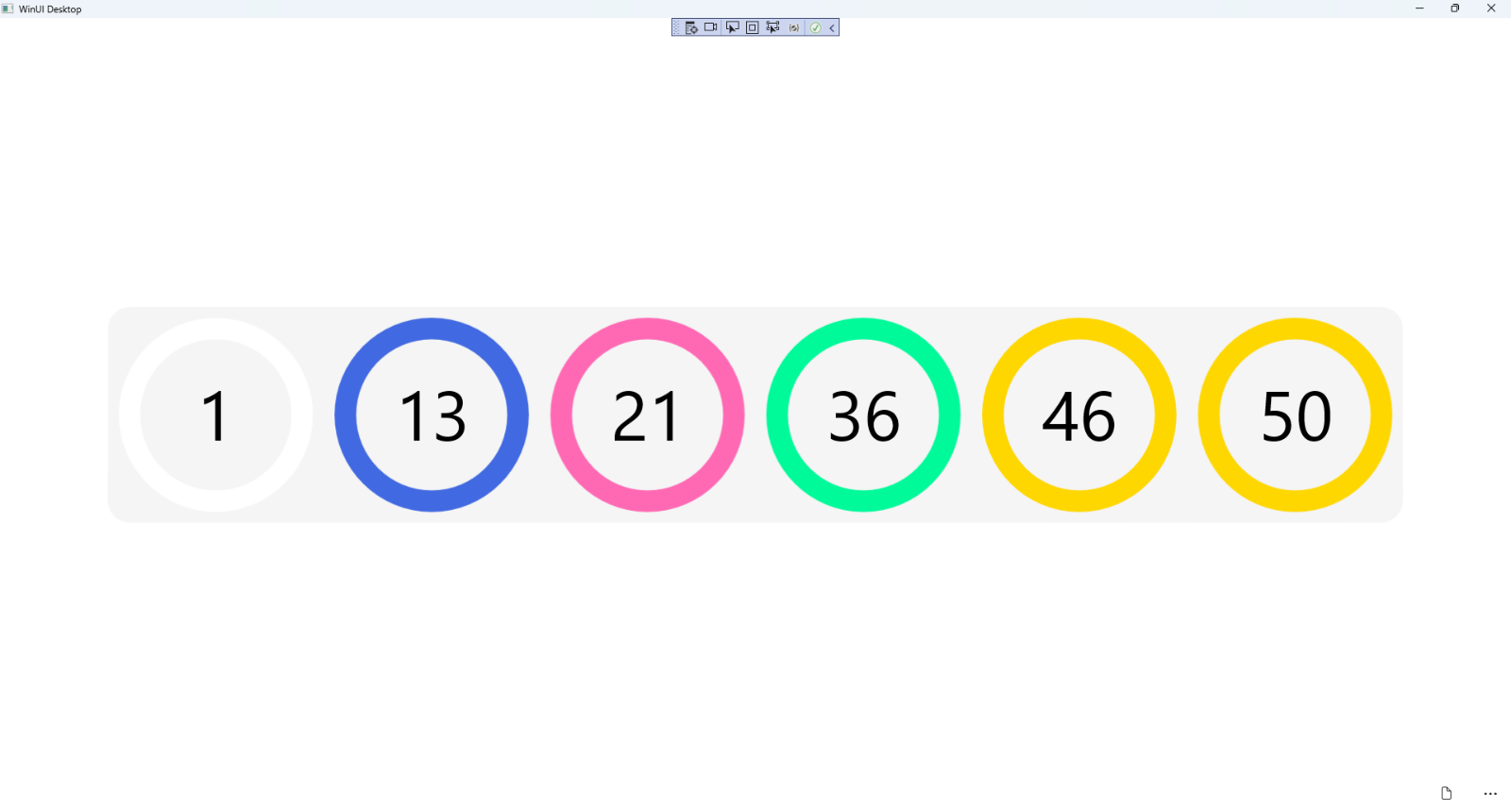
Here an **Instance** of the **Class** of **Library** is created then below this is the **Method** of **New** that will be used with **Event Handler** from the **XAML**, this **Method** uses Arrow Syntax with the **=>** for an Expression Bodywhich is useful when a **Method** only has one line.

## Step 14

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| That completes the **Windows App SDK** application. In **Visual Studio 2022** from the **Toolbar** select **LuckyLotto (Package)** to **Start** the application. |  |

## Step 15

Once running you should see the **Piece** elements showing some lottery number andyou can select *New*to pick different numbers as many times as needed to get a set of numbers you like.

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## Step 16

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| To **Exit** the **Windows App SDK** application, select the **Close** button from the top right of the application as that concludes this **Tutorial** for **Windows App SDK** from [tutorialr.com](https://tutorialr.com)! |  |