

جامعة بغداد / كلية التربية للعلوم الصرفة ابن الهيثم / قسم علوم الحاسبات
المرحلة الثالثة صباحي / مسائي (نظري)
السنة ٢٠٢٤-٢٠٢٥
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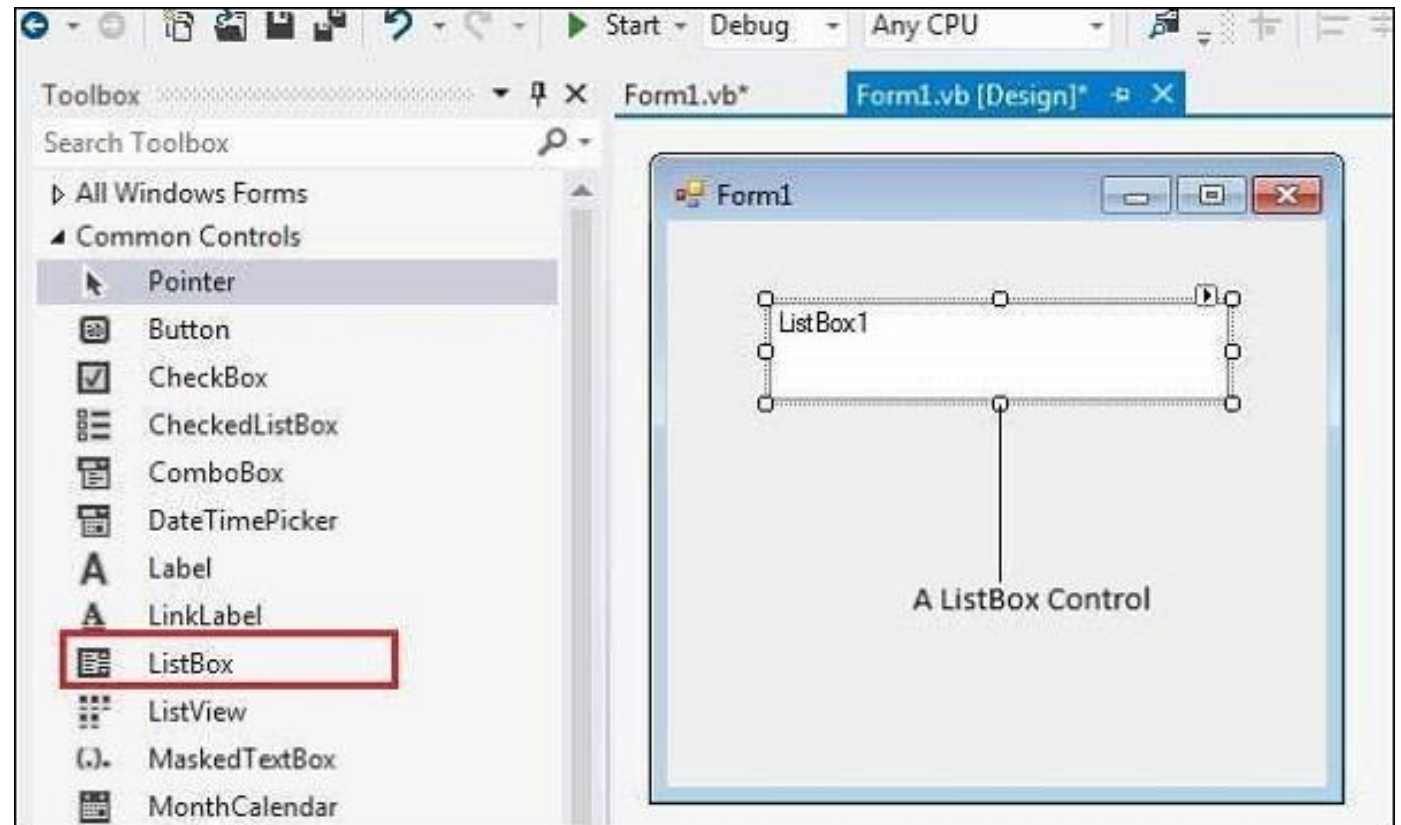
Visual Programming

Lecture 3 – ListBox Control & ComboBox Controls

ListBox Control

The ListBox represents a Windows control to display a list of items to a user. A user can select an item from the list. It allows the programmer to add items at design time by using the properties window or at the runtime.

You can populate the list box items either from the properties window or at runtime. To add items to a ListBox, select the ListBox control and get to the properties window, for the properties of this control. Click the (Collection) button next to the Items property. This opens the String Collection Editor dialog box, where you can enter the values one at a line.



Properties of the ListBox Control

The following are some of the commonly used properties of the ListBox control –

Methods	Description	Example
Add Item	Add an item to the ListBox &ComboBox	<code>ListBox.Item.Add("Text")</code> <code>ComboBox . Item.Add("Text")</code>
Remove Item	Removes the specified item from the ListBox &ComboBox	<code>ListBox1.Items.Remove("Text")</code> <code>ComboBox1.Item.Remove("Text")</code>
Clear	Removes all items from the ListBox &ComboBox	<code>ListBox1.Items.Clear()</code> <code>ComboBox1.Items.Clear()</code>
Select Item	Specifies the selected item in the ListBox &ComboBox.	<code>ListBox1.SelectedItem.ToString()</code>
Sorted	Boolean. Specifies whether the ListBox &ComboBox items are sorted or not.	<code>ListBox1.Sorted = True</code> <code>ComboBox1.Sorted= True</code>
ListCount	Integer. Contains the number of drop-down list items	<code>ListBox1.Items.Count</code> <code>ComboBox1.Items.Count</code>
MultiColumn	Creating multi-column in ListBox&ComboBox	<code>ListBox1.MultiColumn = True</code>

Events of the ListBox Control

The following are some of the commonly used events of the ListBox control :

Sr.No.	Event & Description
1	Click Occurs when a list box is selected.
2	SelectedIndexChanged Occurs when the SelectedIndex property of a list box is changed.

Example 1

In the following example, let us add a list box at design time and add items on it at runtime.

Take the following steps –

Drag and drop two labels, a button and a ListBox control on the form.

Set the Text property of the first label to provide the caption "Choose your favorite destination for higher studies".

Set the Text property of the second label to provide the caption "Destination". The text on this label will change at runtime when the user selects an item on the list.

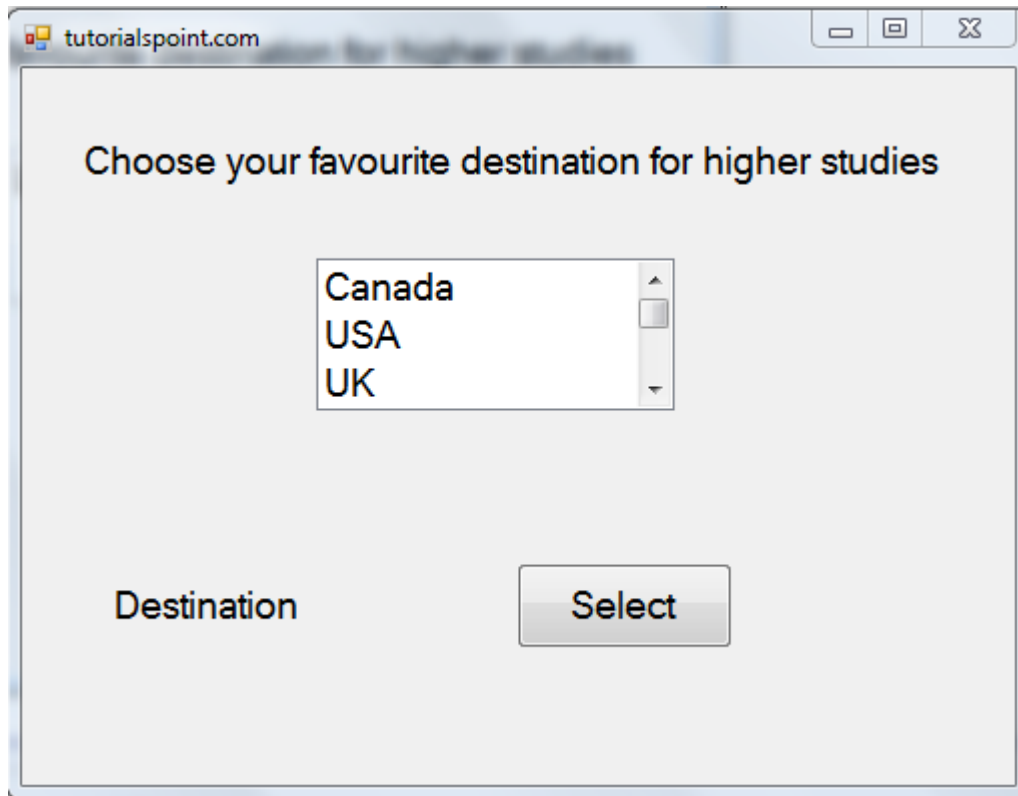
Click the listbox and the button controls to add the following codes in the code editor.

```
Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
    Me.Text = "tutorialspoint.com"
    ListBox1.Items.Add("Canada")
    ListBox1.Items.Add("USA")
    ListBox1.Items.Add("UK")
    ListBox1.Items.Add("Japan")
    ListBox1.Items.Add("Russia")
    ListBox1.Items.Add("China")
    ListBox1.Items.Add("India")
End Sub
```

```
Private Sub Button2_Click(sender As Object, e As EventArgs) Handles
Button2.Click
    MsgBox("You have selected " + ListBox1.SelectedItem.ToString())
End Sub
```

```
Private Sub ListBox1_SelectedIndexChanged(sender As Object, e As EventArgs)
Handles ListBox1.SelectedIndexChanged
    Label2.Text = ListBox1.SelectedItem.ToString()
End Sub
```

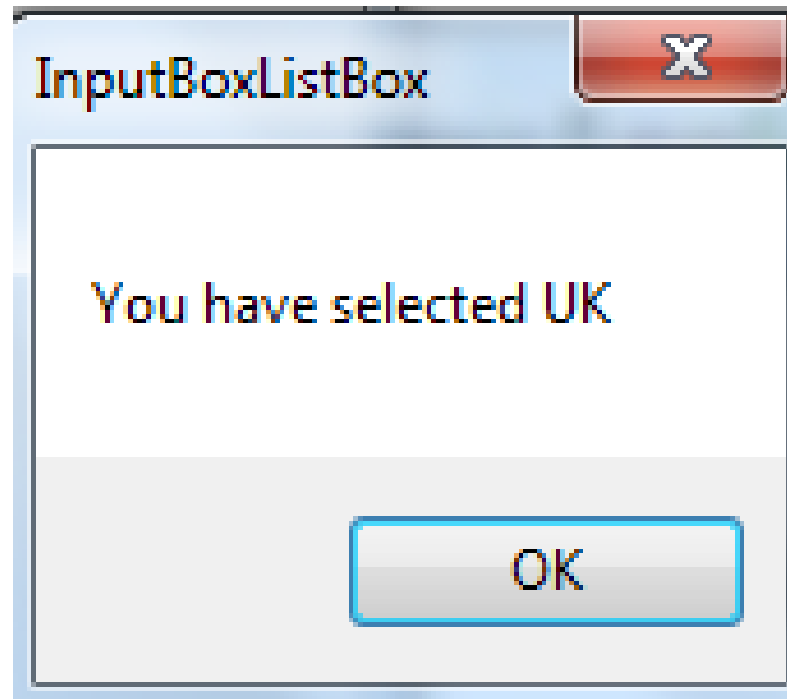
When the above code is executed and run using Start button available at the Microsoft Visual Studio tool bar, it will show the following window –



When the user chooses a destination, the text in the second label changes –



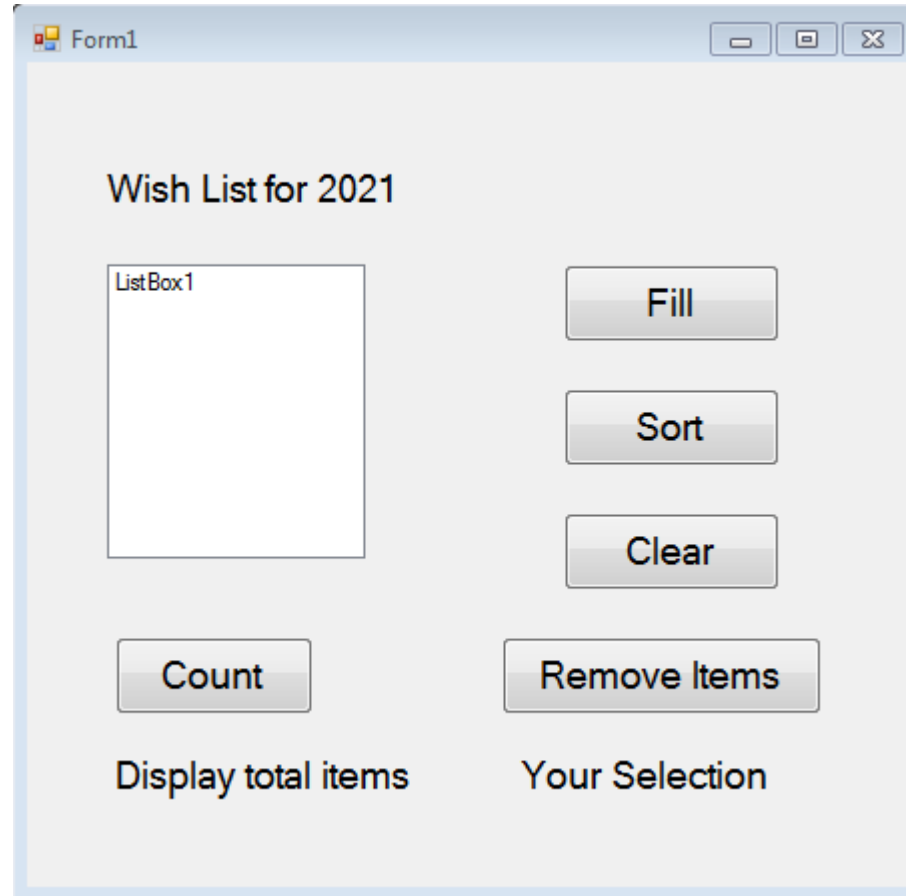
Clicking the Select button displays a message box with the user's choice –



Example 2

In this example, we will fill up a list box with items, retrieve the total number of items in the list box, sort the list box, remove some items and clear the entire list box.

Design the Form –



The screenshot shows a Windows Form titled "Form1". Inside the form, there is a section titled "Wish List for 2021". Below this title is a list box labeled "ListBox1". To the right of the list box are three buttons: "Fill", "Sort", and "Clear". Below the list box are two more buttons: "Count" and "Remove Items". At the bottom of the form, there are two labels: "Display total items" and "Your Selection".

```
Public Class Form1
    Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
        ' Set the caption bar text of the form.
        Me.Text = "tutorialspoint.com"
        ' creating multi-column and multiselect list box
        ListBox1.MultiColumn = True
        ListBox1.SelectionMode =
SelectionMode.MultiExtended
    End Sub

    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        'populates the list
        ListBox1.Items.Add("Safety")
        ListBox1.Items.Add("Security")
        ListBox1.Items.Add("Governance")
```

```
        ListBox1.Items.Add("Good Music")
        ListBox1.Items.Add("Good Movies")
        ListBox1.Items.Add("Good Books")
        ListBox1.Items.Add("Education")
        ListBox1.Items.Add("Roads")
        ListBox1.Items.Add("Health")
    End Sub
```

```
Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
    ListBox1.Sorted = True
End Sub

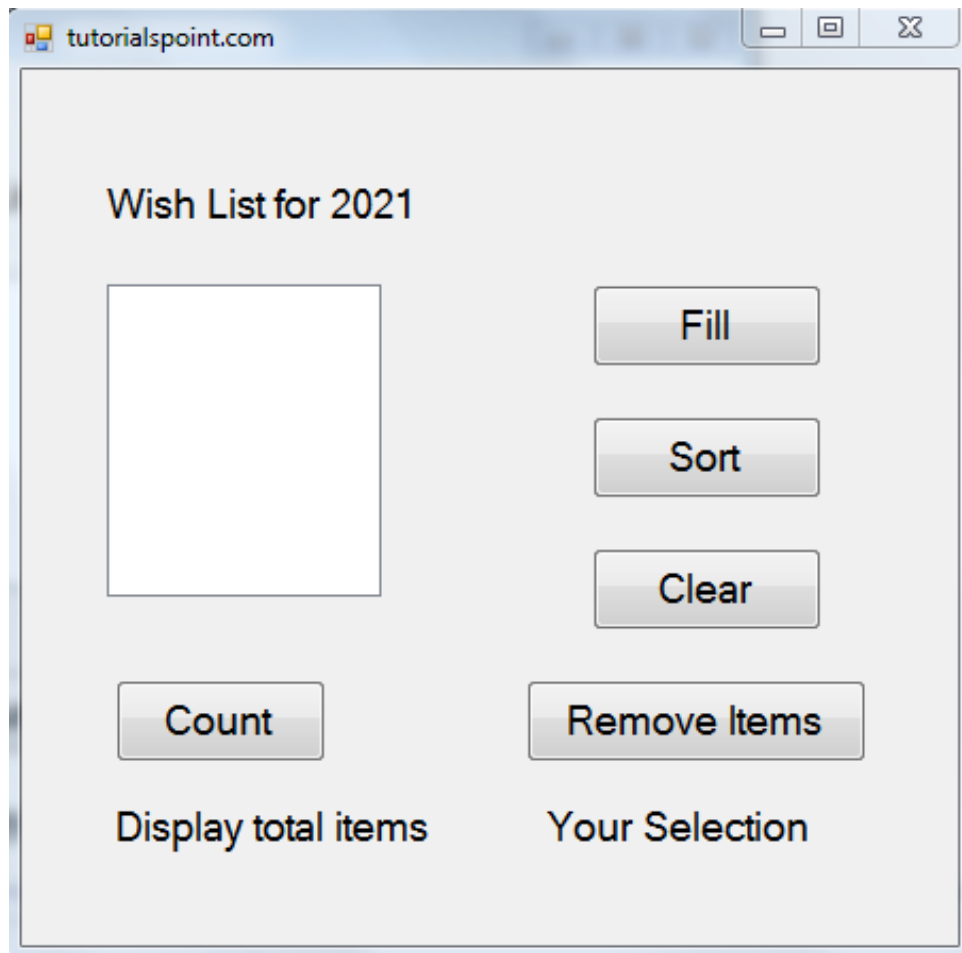
Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
    ListBox1.Items.Clear()
End Sub

Private Sub Button5_Click(sender As Object, e As EventArgs) Handles Button5.Click
    ListBox1.Items.RemoveAt(ListBox1.SelectedIndex())
End Sub

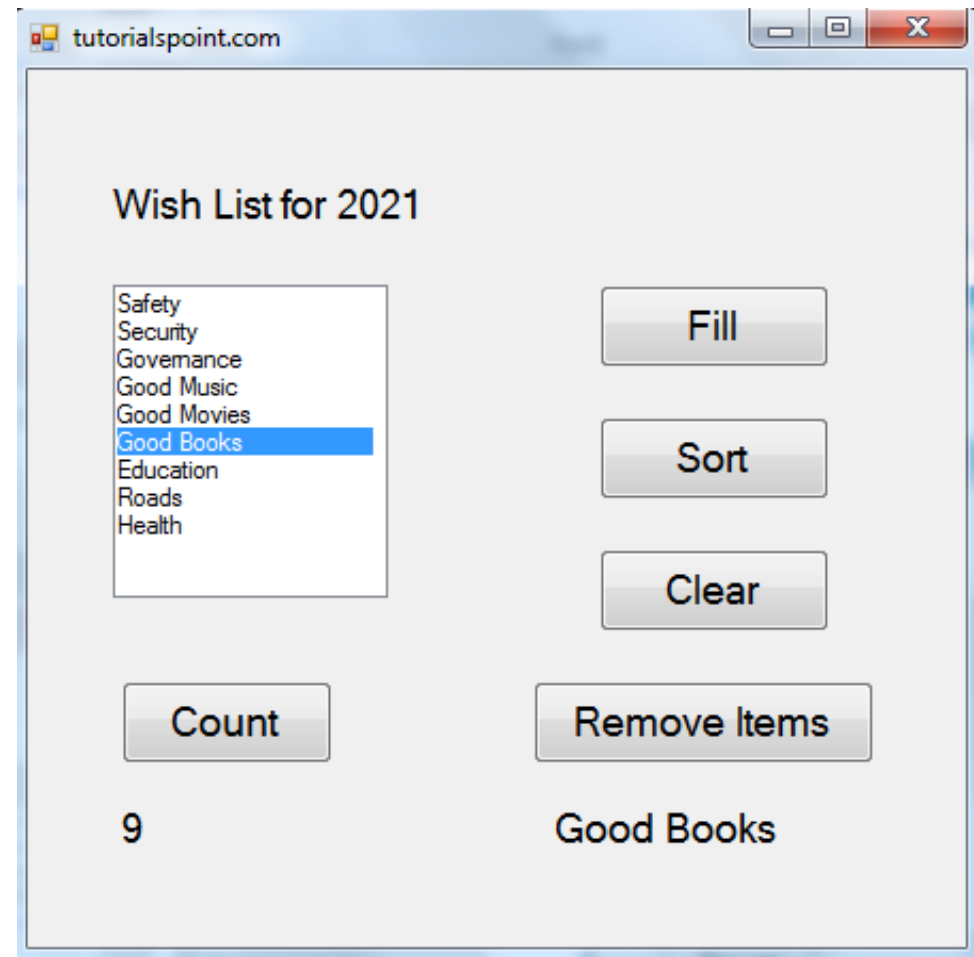
Private Sub Button4_Click(sender As Object, e As EventArgs) Handles Button4.Click
    Label1.Text = ListBox1.Items.Count
End Sub

Private Sub ListBox1_Click(sender As Object, e As EventArgs) Handles
ListBox1.Click
    Label3.Text = ListBox1.SelectedItem.ToString()
End SubEnd Class
```

When the above code is executed and run using Start button available at the Microsoft Visual Studio tool bar, it will show the following window –

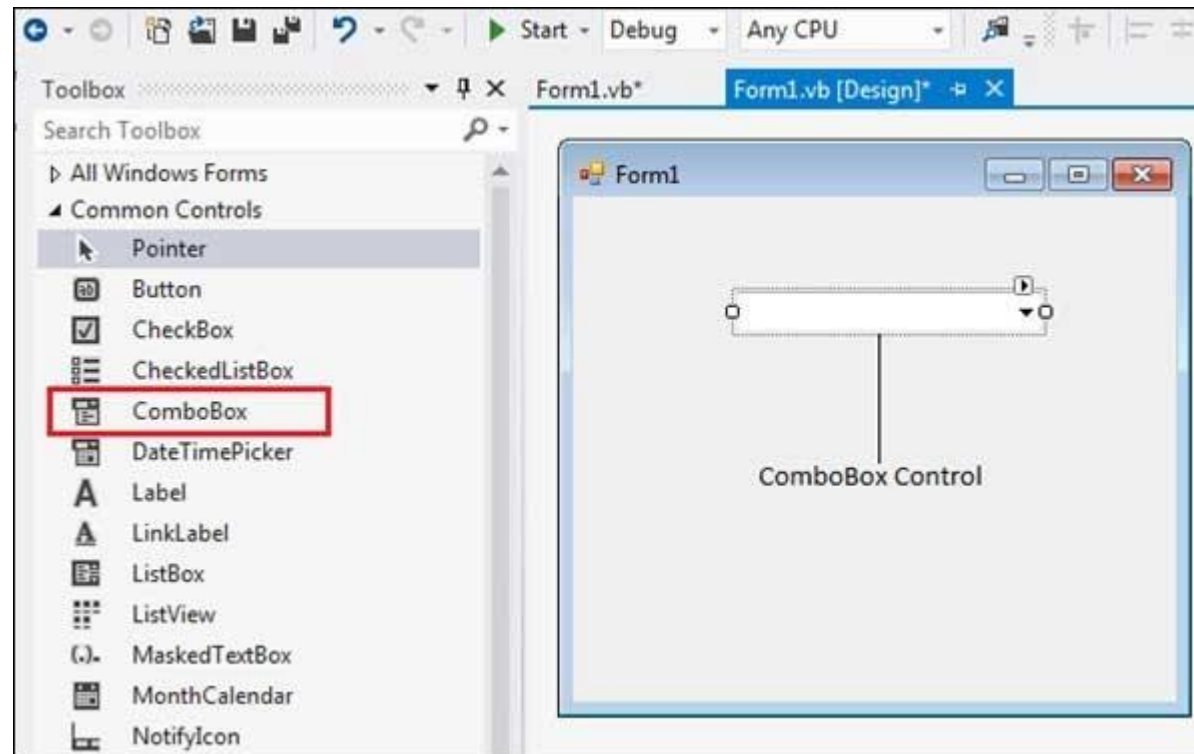


Fill the list and check workings of other buttons –



ComboBox Control

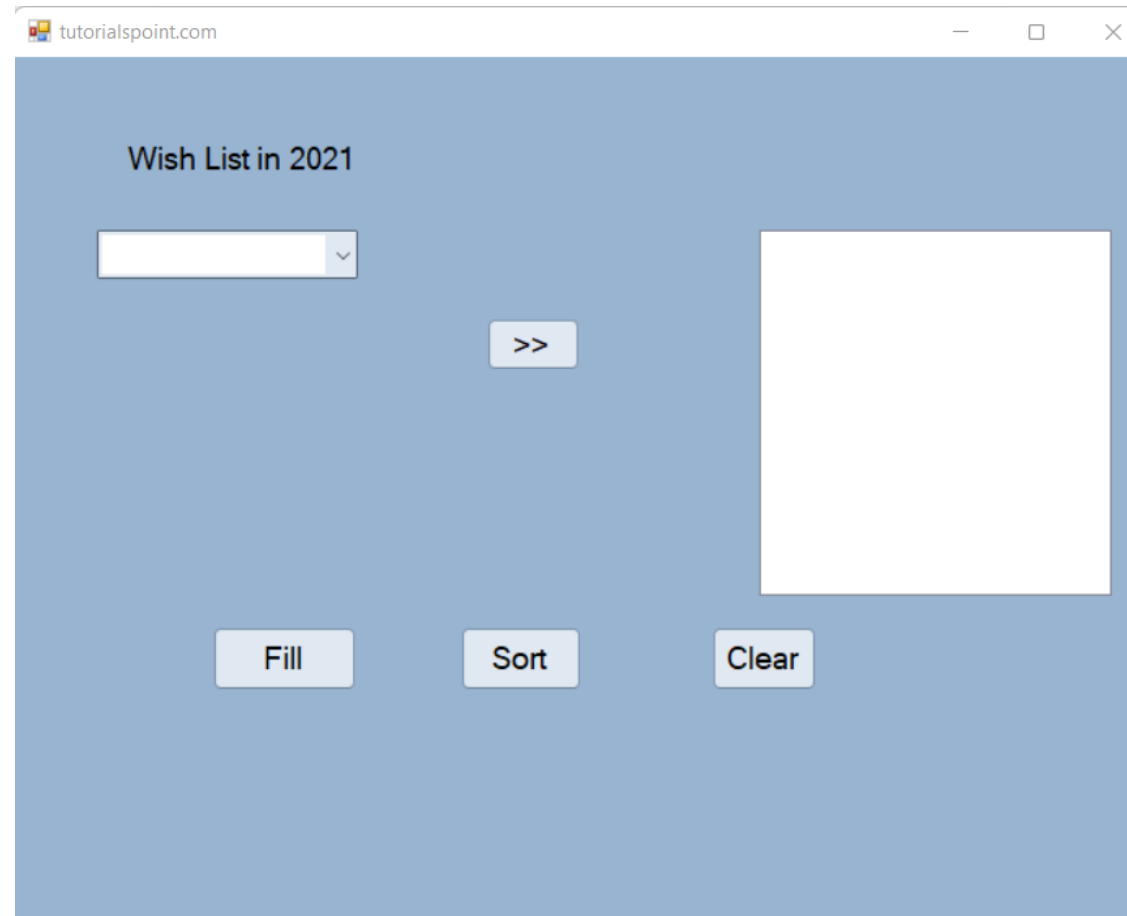
The ComboBox control is used to display a drop-down list of various items. It is a combination of a text box in which the user enters an item and a drop-down list from which the user selects an item.



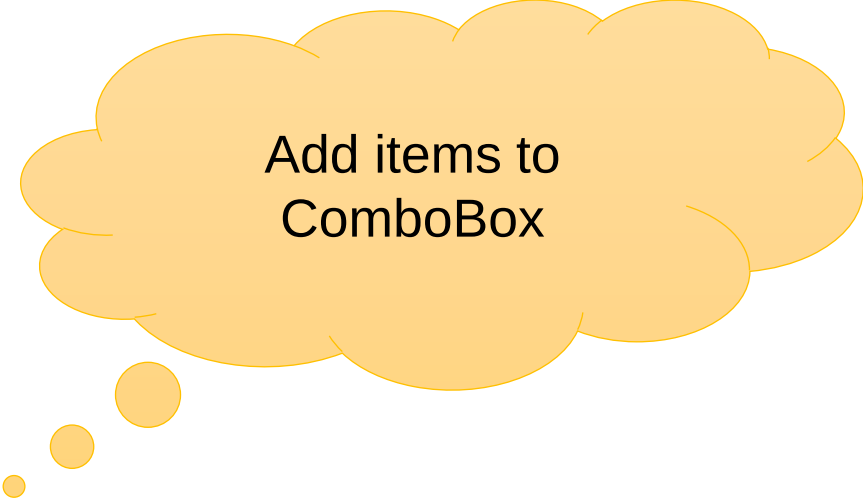
In this example, let us fill a combo box with various items, get the selected items in the combo box and show them in a list box and sort the items.

Drag and drop a combo box to store the items, a list box to display the selected items, four button controls to add to the list box with selected items, to fill the combo box, to sort the items and to clear the combo box list, respectively.

Add a label control that would display the selected item.



```
Private Sub Button2_Click(sender As Object, e As EventArgs) Handles  
Button2.Click  
    ComboBox1.Items.Clear()  
    ComboBox1.Items.Add("Safety")  
    ComboBox1.Items.Add("Security")  
    ComboBox1.Items.Add("Governance")  
    ComboBox1.Items.Add("Good Music")  
    ComboBox1.Items.Add("Good Movies")  
    ComboBox1.Items.Add("Good Books")  
    ComboBox1.Items.Add("Education")  
    ComboBox1.Text = "Select from..."  
    ComboBox1.Items.Add("Roads")  
    ComboBox1.Items.Add("Health")  
    ComboBox1.Items.Add("Food for all")  
    ComboBox1.Items.Add("Shelter for all")  
    ComboBox1.Items.Add("Industrialisation")  
    ComboBox1.Items.Add("Peace")  
    ComboBox1.Items.Add("Liberty")  
    ComboBox1.Items.Add("Freedom of Speech")  
End Sub
```



Add items to
ComboBox

```
Private Sub Button3_Click(sender As Object, e As EventArgs) Handles  
Button3.Click
```

```
    ComboBox1.Sorted = True
```

```
End Sub
```

```
Private Sub Button4_Click(sender As Object, e As EventArgs)  
Handles Button4.Click
```

```
    ComboBox1.Items.Clear()
```

```
    ComboBox1.Text = ""
```

```
End Sub
```

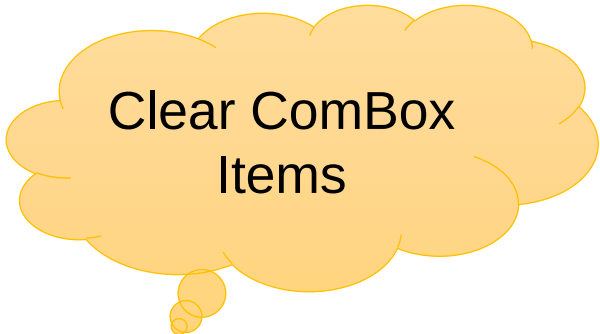
```
Private Sub ComboBox1_SelectedIndexChanged(sender As Object, e As  
EventArgs) Handles ComboBox1.SelectedIndexChanged
```

```
    Label1.Text = ComboBox1.SelectedItem.ToString()
```

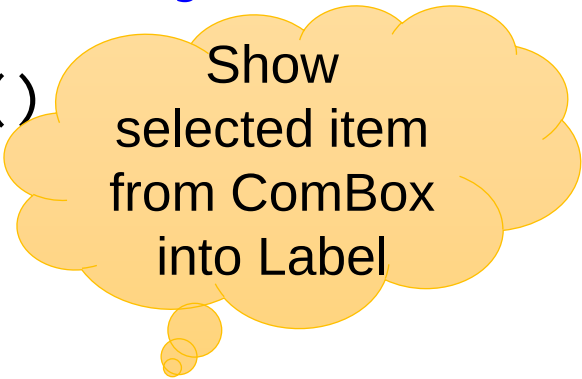
```
End Sub
```

A yellow thought bubble with a small tail pointing towards the code line 'ComboBox1.Sorted = True'.

Sort ComBox
Items

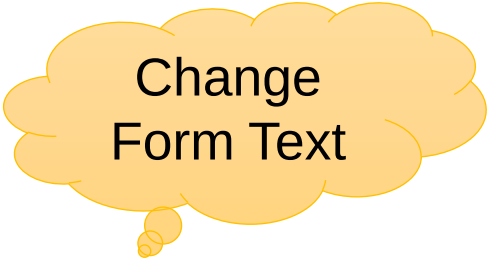
A yellow thought bubble with a small tail pointing towards the code line 'ComboBox1.Items.Clear()'.

Clear ComBox
Items

A yellow thought bubble with a small tail pointing towards the code line 'Label1.Text = ComboBox1.SelectedItem.ToString()'.

Show
selected item
from ComBox
into Label

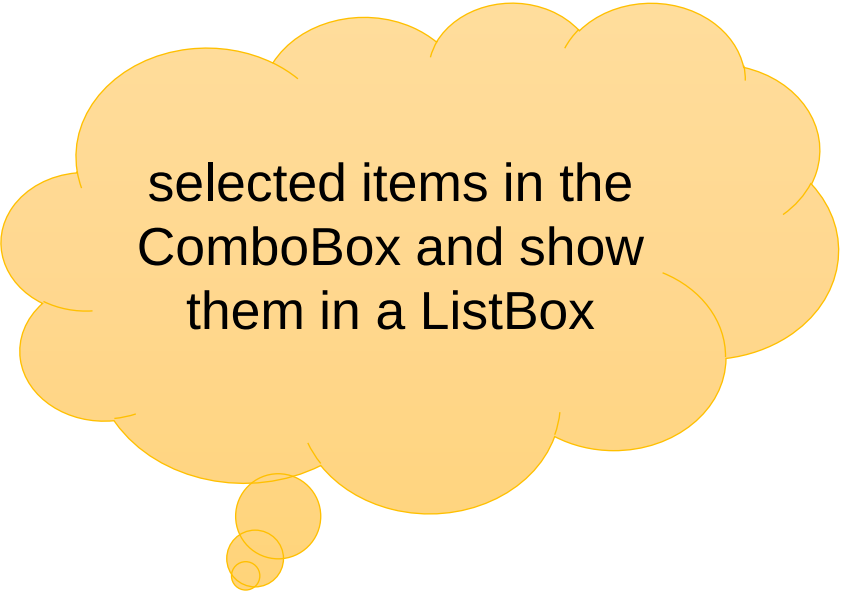
```
Private Sub Form1_Load(sender As Object, e As EventArgs) Handles MyBase.Load
    ' Set the caption bar text of the form.
    Me.Text = "tutorialspoint.com"
```



Change
Form Text

```
End Sub
```

```
Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
    If ComboBox1.SelectedIndex > -1 Then
        Dim sindex As Integer
        sindex = ComboBox1.SelectedIndex
        Dim sitem As Object
        sitem = ComboBox1.SelectedItem
        ListBox1.Items.Add(sitem & "    " & sindex)
    Else
        MsgBox("you did not select")
    End If
```



selected items in the
ComboBox and show
them in a ListBox

```
End Sub
```