
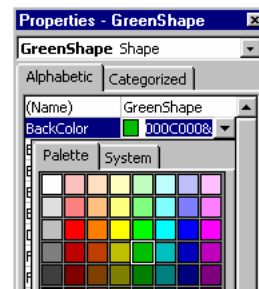


1. Start VB and from the top menu select *File / New Project*. (Make sure you have closed previous projects.)
2. Name the form (*LightsForm*) and change its caption to *Lights*. If you wish change the background colour of the form.
3. Place a label **A** on the form for the *Traffic Lights* title at the top. In the properties window select a suitable font and size for this label's caption, and add the caption.
4. For the lights we will use a *shape* control  found in the toolbox. When you first place a shape it will be a rectangle. We will alter this property shortly. Place three of these, one for each light. Do not worry too much about lining them up exactly yet, we will also do that shortly.
5. Set the following properties for the three lights:

	<i>Red</i>	<i>Amber</i>	<i>Green</i>
<i>Name:</i>	RedShape	AmberShape	GreenShape
<i>Shape:</i>	3 – Circle	3 – Circle	3 – Circle
<i>BackColor:</i>	(red)*	(amber)*	(green)*
<i>BackStyle:</i>	0 – Opaque	0 – Opaque	0 – Opaque



\* choose these colours from the drop down palette next to the *BackColor* property

Note: *BackStyle* has been set to *opaque* because if left *transparent* the colour of the form would show through.

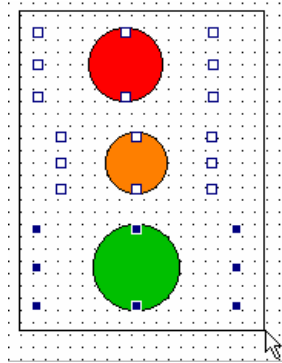
6. We will now arrange the three lights so that they are the same size and in line.

To do this select them all by using the mouse to drag across the three. Alternatively hold down the *Shift* key and click on each of them in turn.

When all three are selected you will see the re-sizing handles on each. Note that the re-sizing handles are different. For the object that was selected last the handles are solid. This is called the *reference object*.

After this choose *Format* from the top menu or use the *Form Editor* toolbar to experiment with *Align* and *Make Same Size*. The reference shape with the solid handles is the one the others resize to or line up on.

Arrange the three circles so that they are the same size, lined up, and equally spaced vertically.



7. Add four buttons (see previous page). Size, space and align them, and then set the properties as follows:

	<i>Stop</i>	<i>Wait</i>	<i>Go</i>	<i>Exit</i>
<i>Name:</i>	StopButton	WaitButton	GoButton	ExitButton
<i>Caption:</i>	Stop	Wait	Go	E&xit

8. Now by double clicking on each button one by one add the following code to the buttons. (Note: by using copy and paste you will be able to save much typing.)

```

Project1 - Lights (Code)
ExitButton Click
Private Sub ExitButton_Click()
    End
End Sub

Private Sub GoButton_Click()
    RedShape.BackStyle = 0
    AmberShape.BackStyle = 0
    GreenShape.BackStyle = 1
End Sub

Private Sub StopButton_Click()
    RedShape.BackStyle = 1
    AmberShape.BackStyle = 0
    GreenShape.BackStyle = 0
End Sub

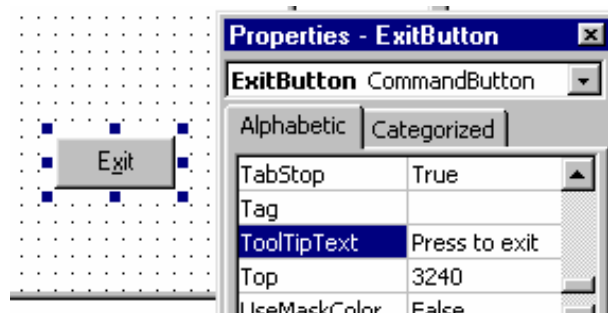
Private Sub WaitButton_Click()
    RedShape.BackStyle = 0
    AmberShape.BackStyle = 1
    GreenShape.BackStyle = 0
End Sub
    
```

By making the *BackColor* transparent ( 0 ) the colour of the form shows through and so the light appears to go out. Only the light with an opaque *BackColor* ( 1 ) “shines”.

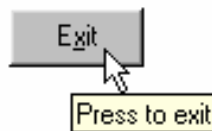
9. Save the form and project with appropriate names in the *Project 4* folder and run the program.
10. Improve the layout, fonts and colours of the form and objects to suit yourself.


The form appears as a window on screen when the application is run. We can further control the appearance and behaviour of this window as we will now see.

11. Make the following changes to the *Lights* form by clicking on it (not any of the objects on it) and then working in the properties window.
  - a Set *StartPosition* to 2 – *CenterScreen*. Run and note the effect.
  - b Make *ControlBox* – *False*. Run the application and see if you can spot the difference. Why might you wish to do this?
  - c Experiment also with *MousePointer*, *BorderStyle*, *Moveable*, *WindowState*, *MinButton* and *MaxButton*.
12. While a program such as this is very basic we can add user help with tooltips.
  - a Choose one of the buttons and add a message to its *ToolTipText* property.



- b When run a tooltip will appear as the mouse moves across this button.



- c Add tool tips to the other buttons.
  13. Finally we will add a picture to the form.
    - a Make the form wider and add an *image* control  to the form.
    - b In the image properties next to *picture* choose a suitable bitmap.

