## **Designing the Lucky Seven Game**

In this lesson, you will start building the Lucky Seven game by creating a new project and then using controls in the toolbox to build the user interface.

- 1. Start Visual Basic. On the **File** menu, click **New Project**. If Visual Basic opens to the New Project window, select Standard EXE and click Open.
- 2. Click the **Form1** window to select it. Enlarge the form by dragging on the handles to make room for the objects in the program. As you resize the form, scroll bars will appear as shown.
- 3. Resize the Project window so you can display the Toolbox and the Properties window.
- 4. Click the **CommandButton** control in the toolbox. Move the mouse pointer over the form. The mouse pointer changes to crosshairs when it rests on the form. The crosshairs are designed to help you draw the rectangular shape of a command button. Hold down the left mouse button and drag. The command button object takes shape and snaps to the grid formed by the intersection of dots on the form. Create your first command button close to the upper left corner of the form as shown. By default, the name of the command button is **Command1**.

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- 5. Add a second command button below the first button on the form. Make the second button the same size as the first. You may move or resize the button after you place it by dragging on the handles.
- 6. Click the **Label** control A in the toolbox, and then place the mouse pointer over the form. Drag to create a small, rectangular box like the one shown below.

, Project1 - Form1 (	(Form)	
💐 Form1		<u> </u>
Command1	Label1	
		::::::
Command2		
· · <del>· · · · · · · · · · · · ·</del>		::::::
		:::::=
		•••••

7. By default, the label you created will be called **Label1**, the first label in the program. Create two more labels beside the first one, as shown. Make all three labels the same size.

🖹 Form1			
Command1	Label1	Label2	Label3
Command2			
			· · · · · · · · · · · · · · · · · · ·

8. Create a larger Label4 directly below the two command buttons, as shown.

💐 Form1			
Command1	Label1	Label2	Label3
Command2			
Label4	•		
	•		
:: ::			

- 9. Next, you will add an image box to the form to display the jackpot the user wins when a lucky seven is drawn. Before you begin, click here to download the image to your computer. Save the image to your My Documents/My Pictures folder.
- 10. Select the **Image** control in the toolbox. Create a large rectangular box directly beneath the Label1, Label2 and Label3 controls, as shown.

🛢 Form1				
Command1	Label1	Label2	•	
Command2		· · · · · · · · · · · · · · · · · · ·	•	
Label4				
· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		
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- 11. Now we are ready to set the properties for these controls. Open the **Properties** window, if it is not already open.
- 12. Select the first command button, called Command1. Once selected, it will be surrounded by selection handles.
- 13. In the **Properties** window, double-click the **Caption** property in the left-hand column, as shown.

Properties - Command1 📃 🗆 🗙					
Command1 Com	imandButton 📃				
Alphabetic Cate	gorized				
(Name)	Command1				
Appearance	1 - 3D				
BackColor	8H800000F&				
Cancel	False				
Caption	Command1				
CausesValidation	True				
Default	False				
DisabledPicture	(None)				
DownPicture	(None)				
DragIcon	(None)				
DragMode	0 - Manual				
Enabled	True				
Font	MS Sans Serif				
Height	495 🔹				

14. Notice that the current name, **Command1**, is also selected in the right-hand column. You will rename the Command1 button. Type **Spin** and then press **Enter**. Notice that the caption property changes to Spin in the Properties window and on your form, as shown.

🍯 Project1 - Form1 (Form)	🖀 Properties -	Command1 _ 🗆 🗙	
Form1	Command1 Com	nmandButton 💽	
	Alphabetic Cate	egorized	
Spin Label1	(Name)	Command1	
:: <u></u> ::	Appearance	1 - 3D	
	BackColor	8H800000F&	
	Cancel	False	
Command2	Caption	Spin	
	CausesValidation	True	
	Default	False	
. Label4	DisabledPicture	(None)	
	DownPicture	(None)	
	DragIcon	(None)	
	DragMode	0 - Manual	
	Enabled	True	
:: ::::: ::	Font	MS Sans Serif	
::	Height	495 🔹	
		·	
	Caption		

- 15. Select **Command2** and change the caption to **End**, as shown.
- 16. Next, you will set the properties for Label1, Label2 and Label3. Click **Label1** to select it. Hold down the **Shift** key and click **Label2** and **Label3**. Selection handles will appear around each of the three labels. Release the Shift key.
- 17. In the Properties window, double-click the **Alignment** property. A drop-down list box arrow appears in the right-hand column. Click the drop-down arrow to display a list of alignment options, as shown.

Project1 - Form	l (Form)	
Form1	_	Alphabetic Categorized
		Alignment 2 - Center
0.1	Label1 C Label2 C Label2 Label3 C	Appearance 0 - Left Justify
Spin		AutoSize 1 - Right Justify
		BackColor 2 - Center
		BackStyle 1 - Opaque
End		BorderStyle 0 - None
	]	Caption
		DataField
Label4		DataMember
		DataSource
		DragMode 0 - Manual
		Enabled True
		East

- Click the 2-Center option from this list.
   In the Properties window, double-click the BorderStyle property. Click the drop-down list arrow and select 1-Fixed Single, as shown.

Form1		_ Alphabetic Categorized
		Alignment 2 - Center
Color	Label1 Label2 Label2	Appearance 1 - 3D
:: Spin		AutcSize False
		BackColor 8H8C00000F&
•••		BackStyle 1 - Opacue
: End		BorderStyle 1 - Fixec Single 💌
	· · · · · · · · · · · · · · · · · · ·	Caption 0 - None
		DataField 1 - Fixed Single
Label4		DataMember
		DataSource
		DracMode 0 - Manual
::		Enabled True
	· · · · · · · · · · · · · · · · · · ·	Font
		ForeColor 8/H8C0000128

20. Double-click the Font property in the Property window. The Font dialog box appears, as shown.

Font Font:	Font style:	Size:	?×
MS Sans Serif MS Serif Th MT Extra Th New Berolina MT Th Old English Text MT O Palatino Linotype Roman	Regular Regular Italic Bold Bold Italic	8 10 12 14 18 24 ▼	OK Cancel
Effects Strikeout Underline	Sample AaBbYyZ	żz	
	Script: Western	•	

- 21. Change the font to Times New Roman, the font style to Bold and the point size to 24, then click OK.
- 22. Click the form to remove the selection handles from the three labels.
- 23. Select Label1. Double-click the Caption property in the Property window. Press the Delete key on the keyboard to delete the caption. Delete the captions for Label2 and Label3, as shown.

🗬 Project1 - Form1 (Fo	orm)	Label3 Label		
Form1	_	Alphabetic Ca	stegorized	
		(Name)	Label3	
		Alignment	2 - Center	
:: Spin [::		Appearance	1 - 3D	
	::	AutoSize	False	
		BackColor	8H800000F&	
End 1		BackStyle	1 - Opaque	
.:::		BorderStyle	1 - Fixed Single	
		Caption		
Label4		DataField		
::		DataFormat		
		DataMember		
::		DataSource		

- 24. Now you will change the **Caption**, **Font** and **Fore Color** properties on the last label, Label4. Click Label4 to select it.
- 25. Double-click the **Caption** property and type **Lucky Seven** in the right-hand column.
- 26. Double-click the **Font** property and use the Font dialog box to change the font to **Arial**, the style to **Bold** and the point size to **20**. Click **OK**.
- 27. Double-click the **ForeColor** property in the Property window. A list box appears with a **System** tab and a **Palette** tab. Select the **Palette** tab, then click the box containing the dark **purple** color. All the properties that were changed in steps 24 to 27 are shown below.

🐃 Project1 - Form1	(Form)
💐 Form1	
Spin	
End	
	• • • • • • • • • • • • • • • • • • • •
Lucky Seven	•
· · · · · · · · · · · · · · · · · · ·	

- Next, you will set the Stretch property to size the graphic that you will add to the form.
   Select the image box. Double-click the Stretch property, click the drop-down list arrow and select True, as shown.

🛢 Project1 - Form1	(Form)	_10	😭 Properties -	Image1	٦×
Form1			Image1 Image		*
			Alphabetic Cate	gorized	
Spin			Index		
		; J	Left	2640	
			MouseIcon	(None)	
11			MousePointer	0 - Default	
- End			OLEDragMode	0 - Manual	
			OLEDropMode	0 - None	
			Picture	(None)	
Luclar			Stretch	True	-
E Lucky			Tag	True	
Courses			ToolTipText	False	
Seven			Тор	1440	=
11			Visible	True	- 11
::					- 11
• •			WhatsThisHelpID		_
			Width	3135	•

30. Double-click the **Picture** property. The **Load Picture dialog box** appears, as shown.

Load Picture						<u>? ×</u>
Look in: 🖄	My Documents		•	- 🗈	💣 🎟 •	
CS_Sample	: Curriculums Jpdates nt Assignments	SPAN Inbox				
File name:					Ope	n
Files of type:	All Picture Files	\$		•	Cano	el
					Help	

31. Navigate to **My Documents/My Pictures**, as shown, and then select the image called **treasurechest\_r06\_c1** and click **Open**. The image is loaded into the image box on the form, as shown.

🛢 Project1 - Form1 (Form)	
🛎 Form1	
Spin	
End	·····
Lucky Seven	
· · · · · · · · · · · · · · · · · · ·	

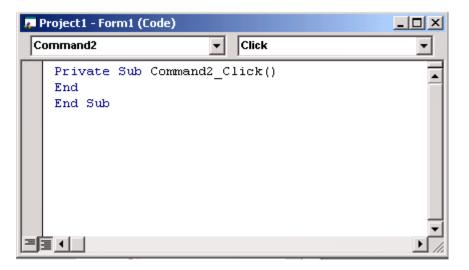
- 32. Now you will change the **Visible** property so that the treasure chest will be invisible when the program starts. Double-click the **Visible** property.
- 33. Click the drop-down list arrow and select False.
- 34. Now you are ready to write the code. Close the Properties window.35. Double-click the End command button on the form. This will open the Code window, as shown.

🖣 Form1	🗾 Project1 - Form1	(Code)	_ 🗆 🗵
	Command2	- Click	•
Spin	Private Su	b Command2_Click()	
End	End Sub		
Lucky Seven			
Seven			
	≡≣ •		۔ ب/

36. Inside the code window, there are program statements that indicate the beginning and end of this particular Visual Basic subroutine, also known as an event procedure. A subroutine, or event procedure, is a block of code associated with a particular object in the interface. The body of the procedure always fits between these lines. The cursor is flashing on the line between:

Private Sub Command2\_Click( ) End Sub

37. Type **End**, then press the **Down** arrow key on the keyboard, as shown.



38. Move the cursor to the beginning of the line with the **End** statement. Press the spacebar **four** times to move the End statement four spaces to the right, as shown.

6	Project1 - Form1 (	Code)		
С	ommand2	▼ Click		•
	Private Sub End	Command2_Click()	Procedure	-
	End Sub			
	≣			- -

39. Now you will write the code for the **Command1** Spin button. Click the Object drop-down arrow and choose Command1 from the drop-down list, as shown.

Project1 - Form1 (Code)		_ [] >
Command2	Click	•
(General)	lick()	-
Command1	JIICK()	-
Command2		
Form		
lmage1		
Label1		
Label2		
Label3		
Label4		
		-
∄≣ <u> </u>		<u> </u>

40. Type the lines of code exactly as shown.

```
Image1.Visible = False 'hide coins
Label1.Caption = Int (Rnd * 10) 'pick numbers
Label2.Caption = Int (Rnd * 10)
Label3.Caption = Int (Rnd * 10)
'if any caption is 7 display treasure chest and beep
If (Label1.Caption = 7) Or (Label2.Caption = 7) _
Or (Label3.Caption = 7) Then
Image1.Visible = True
Beep
End If
```

41. When you have finished, the code window should look exactly as shown.

🛃 Project1 - Fo	orm1 (Code)	
Command1	Click	•
Image1. Label1. Label2. Label3. 'if any If (Lak Or (Lak	e Sub Command1_Click() .Visible = False 'hide coins .Caption = Int(Rnd * 10) 'pick numbers .Caption = Int(Rnd * 10) .Caption = Int(Rnd * 10) y caption is 7 display coin stack and beep bel1.Caption = 7) Or (Label2.Caption = 7) _ bel3.Caption = 7) Then .Visible = True	
		► <i>[]</i> ,

- 42. Students find this first attempt at entering code to be the most difficult part of the lesson. It must be typed **exactly** as shown or it will not work. Pay close attention to your typing. I promise you that if you enter it **exactly as shown**, it will work!
- 43. The last steps involve Saving our project and then running it. Click File->Save Project as just as in the image shown below.

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<u>E</u> dit	⊻iew	Proje	ct	F <u>o</u> rmat	
<u>N</u> ew P	roject		С	trl+N	
Open I	Project		C	trl+0	
A <u>d</u> d Pr	roject.				
<u>R</u> emov	/e Proj	ect			
Sa <u>v</u> e P	Project				
Sav <u>e</u> P	Project	As			
<u>S</u> ave M	ЛуLuck	y.frm	С	trl+S	
Save M	MyLuck	y.frm ,	<u>A</u> s.		
Save S	Selectio	m			
			:		
	Edit New P Open I Add Pr Remov Save F Save F Save f	Edit View New Project Open Project Add Project Remove Proj Save Project Save Project Save MyLuck Save MyLuck	Edit View Proje New Project Open Project Add Project Remove Project Save Project Save Project As Save MyLucky.frm	Edit View Project New Project C Open Project C Add Project Remove Project Save Project Save Project As Save MyLucky.frm C Save MyLucky.frm As.	Open Project Ctrl+O Add Project Remove Project Sa <u>ve Project</u> Save Project As Save MyLucky.frm Ctrl+S Save MyLucky.frm <u>A</u> s

44. Click the Create New Folder button

on the toolbar and a new folder appears, as shown.

Save Project a	As				<u>? ×</u>
Save in: 🔂	Less02	•	+ 🗈	💣 🎟 -	
MyLucky					
File name:	MyLucky			Oper	n
Save as type:	Project Files (*.vbp)		•	Canc	el
				Help	

45. In the New Folder box, type Practice and press Enter. A new folder named Practice is created as shown.

Note: For the rest of the course, you will save all your projects in the Practice folder.

46. In the File name box, type **MyLucky** and press **Enter**. Your Lucky Seven form will be saved as **MyLucky.frm**.

Save Project a	As			<u>? ×</u>
Save in: 🔁	Less02	-	- 🔁	💣 🎟 •
MyLucky				
File name:	MyLucky			Open
Save as type:	Project Files (*.vbp)		•	Cancel
				Help

- 47. The **Save Project As** dialog box appears again. The **Practice** folder should already be in the **Save in** box. In the **File name** box, type **MyLucky** and press **Enter**. This will save the project as **MyLucky**.**vbp**.
- 48. Congratulations! You are now ready to run your first Visual Basic program. Click **Run** on the menu bar and select **Start**. The game interface that you created appears just as you designed it. Click the **Spin** button. Three random numbers will appear in the boxes. If number 7 shows in one of the boxes, the image will also appear and your computer will beep. If the number 7 does not show in one of the boxes, the image will not appear and you will not hear a beep. Continue to click the spin button to play the game. When you are

finished playing, click the **End** button to end the game.

