

VISUAL BASIC SAMPLE CODE

Edition 2

By

Dr.Liew

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The purpose of this book is to provide a basic guide for people interested in Visual Basic programming. Although every effort and care has been taken to make the information as accurate as possible, the author shall not be liable for any error, harm or damage arising from using the instructions given in this book.

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About the Author

Dr. Liew Voon Kiong holds a bachelor's degree in Mathematics, a master's degree in management and a doctoral degree in business administration. He has been involved in programming for more than 15 years. He created the popular online Visual Basic Tutorial at www.vbtutor.net in 1996 and since then the web site has attracted millions of visitors and it is one of the top searched **Visual Basic Tutorial** websites in many search engines including Google. To provide more support for the Visual Basic hobbyists, he has written this book based on the online Visual Basic tutorial.

Preface

The sample programs in this book were developed using Visual Basic 6. However, they can be easily modified to build applications for VB.Net. Visual Basic 6 is a third-generation event-driven programming language first released by Microsoft in 1991. In Visual Basic 6, the sky's the limit. You can develop all kinds of applications, including educational apps, financial apps, games, multimedia apps, animations, database applications and more.

Visual Basic 6 Samples Code comprises 290 pages of captivating content and 48 fascinating sample codes. All the examples are explained in great details using easy-to-understand language and illustrated with gorgeous Images.

By reading the book and using the sample source codes, you will master Visual Basic programming effortlessly!

You will be able to:

- Understand basic to intermediate concepts of Visual Basic programming.
- Create your own Visual Basic 6 programs from scratch.
- Get programming ideas from 48 interesting sample programs.
- Modify the source codes easily to suit your needs.

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1. Games and Fun

1.1 Simple Animated Slot Machine

This simple slot machine was created using Visual Basic 6. While it does not exactly resemble the real machines played in casinos, it does demonstrate the concept of randomness and probability in an actual slot machine. Slot machine is a game of chance; many different outcomes will appear when the player presses the play button.

In this program, you need to draw an array of nine shapes, Visual Basic will automatically label the shapes as shape1(0), shape1(1), shape1(2), shape1(3), shape1(4), shape1(5), shape1(6), shape1(7) and shape1(8) respectively. Arrange the shapes into three rows. Write the code so that only three types of shapes appear randomly. The shapes are square, oval and rectangle. Their appearance can be set at runtime using the Shape properties. For example, Shape1 (0).Shape=0 means it is a rectangle, Shape1 (0).Shape=1 is a square and Shape1 (0).Shape=2 is an oval shape. The colors of the shapes are controlled by the FillColor property of the shapes. For example, Shape1(0).FillColor=vbRed will give the shape a red color. Besides, the default FillStyle property is transparent; therefore, you need to set the FillStyle property to solid so that the colors can show up.

Randomness can be achieved by using the Rnd function. You must also insert a timer to create the animated effect of the slot machine. The time interval is set to 10 so that the shapes change at a fast rate to create the illusion of animation. The program also uses a variable x to control the timer so that it can be stopped when x attains a specific value, otherwise the program will loop forever. The purpose of this program is just to show how different shapes can appear randomly, therefore many advanced features of a slot machine such as the amount of bet are not included here.

The design UI is shown in Figure 1.1

The Design UI

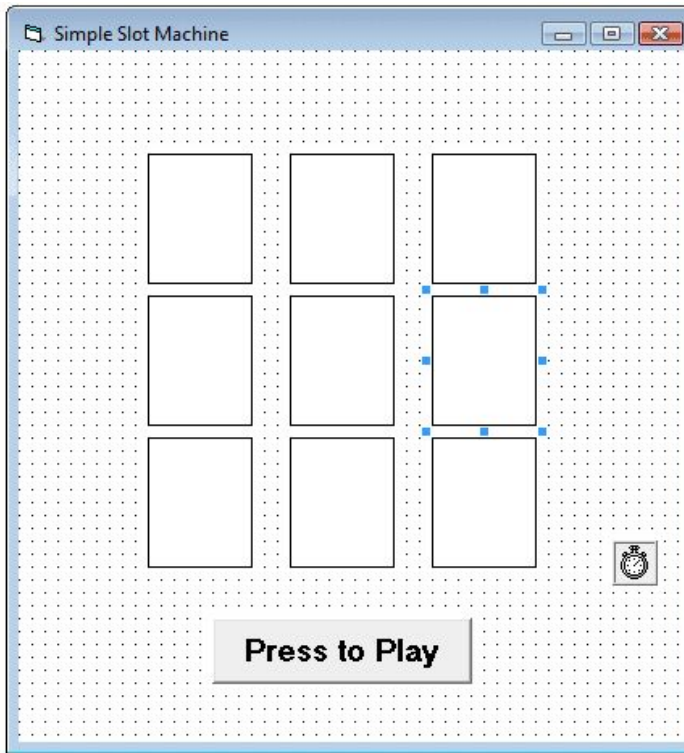


Figure 1.1

The Runtime IUI is as shown in Figure 1.2

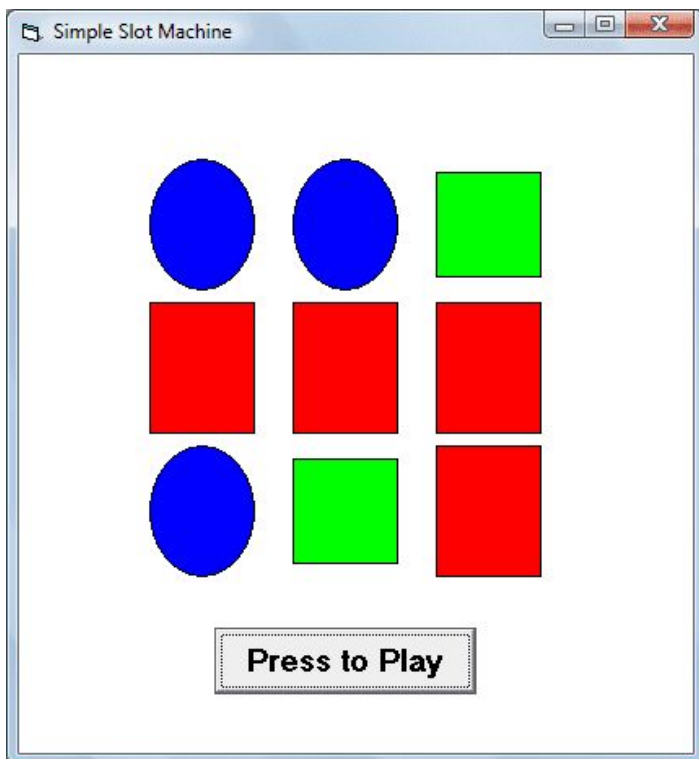


Figure 1.2

The code

```
Private Sub Command1_Click()
```

```
'To start the timer
```

```
Timer1.Enabled = True
```

```
x = 0
```

```
End Sub
```

```
Private Sub Timer1_Timer()
```

```
x = x + 10
```

```
Dim a, i As Integer
```

```
For i = 0 To 8
```

```
'To generate random integers 0,1 and 2
```

```
a = Int(Rnd * 3)
```

```
Shape1(i).Shape = a
```

```
Shape1(i).FillStyle = Solid
```

```
If a = 0 Then
```

```
Shape1(i).FillColor = vbRed
```

```
Elseif a = 1 Then
```

```
Shape1(i).FillColor = vbGreen
```

```
Else
```

```
Shape1(i).FillColor = vbBlue
```

```
End If
```

```
Next i
```

```
'To stop the timer
```

```
If x > 500 Then
```

```
Timer1.Enabled = False
```

```
End If
```

```
End Sub
```


1.2 Advanced Animated Slot Machine

This is a more advanced animated slot machine created using Visual Basic 6, an improvement from the simple animated slot machine. The slot machine allows the player to enter the amount to bet. Besides that, we add sound and music to the program. The interface is shown in Figure 1.3



Figure 1.3

To design the UI, drag the form to a suitable size. Insert a Label control and place it at the top part of the part. Change its caption to '**Animated Slot Machine**', set proper font type, font size as well as foreground and background colors. Next, insert another Label control and place it immediately below the first Label. This Label serves as the display panel for showing the amount the user wins. The display will be animated.

Besides that, place a shape control and set its shape property to rounded rectangle. Drag it to a proper size and fill it with a suitable solid color. It will act as the background panel for the spinning shapes. Now for the spinning shapes, insert a shape control into the form and then copy and paste repeatedly to create a control array of three shapes, each will be identified by its index. The first is `shape1(0)`, the second is `shape1(1)` and the third `shape1(2)`.

Retain the default shape property as rectangle and only change their shapes during runtime. Place all the three shapes on top of the first shape control, use color to make the former shapes stand out. In addition, insert another Label below the shape controls above and change its caption to '**Enter amount to bet**' to give instruction to the player the amount to bet. To let the player enter the amount they want to bet, insert a text box on the right of the above label and clear its text. The next two controls you need to insert into the form are two command buttons, one of them you label its caption as "Spin" and the other one you label it as "Stop".

To create the animated effect, you must insert a timer and set its interval to 20, which is equivalent to 0.02 second. You must also set its **Enabled** property to False so that the slot machine will not start until the user presses the “Spin” button. Besides, you need to insert the Multimedia Control to produce the sound effects. To include the multimedia control as one of the controls, click on project on the menu in Visual Basic 6 IDE and select components, and then click on **Microsoft Multimedia Control 6.0** to add it to the Toolbox.

Once the Microsoft Multimedia Control icon is added to the Toolbox, you can add the Multimedia Control into your form. In this program, you need to use two Microsoft Multimedia Controls, one for playing the spinning sound and the other for the jackpot sound. You must set the **Visible** property of both Microsoft Multimedia Controls to False so that they will not initiate at start-up. Last, insert a menu item and label it as “**Help**” and a submenu item and label it as “**Instruction**”.

The code

```
Dim x As Integer
Dim amount As Integer
Dim a, b, c As Integer
Private Sub Spin_Click()
Timer1.Enabled = True
MMControl1.Command = "Close"
MMControl2.Command = "close"
x = 0
Label2.Caption = "Your Credits"
amount = Val(Text1)
End Sub

Private Sub Stop_Click()
End
End Sub

Private Sub Form_Click()
Label3.Visible = False
End Sub

Private Sub Form_Load()
Label1.Caption = " Welcome to Play"
Label3.Visible = False
End Sub

'To display instructions when the user clicks on the menu item Help
Private Sub instruct_click()
Label3.Visible = True
End Sub

Private Sub Text1_Change()
```

```
amount = Val(Text1)
End Sub

Private Sub Timer1_Timer()
If x < 500 Then
spin
Else
Timer1.Enabled = False
MMControl1.Command = "Stop"
Label1.Alignment = 2
If (a = 3 And b = 3 And c <> 3) Or (a = 3 And c = 3 And b <> 3) Or _
(b = 3 And c = 3 And a <> 3) Then
Label1.Caption = " You win 20 dollars"
amount = amount + 20
End If
If (a = 4 And b = 4 And c <> 4) Or (a = 4 And c = 4 And b <> 4) Or _
(b = 4 And c = 4 And a <> 4) Then
Label1.Caption = " You win 30 dollars"
amount = amount + 30
End If
If (a = 5 And b = 5 And c <> 5) Or (a = 5 And c = 5 And b <> 5) Or _
(b = 5 And c = 5 And a <> 5) Then
Label1.Caption = " You win 40 dollars"
amount = amount + 40
End If
If (a = 3 And b = 3 And c = 3) Or (a = 4 And b = 4 And c = 4) Or _
(a = 5 And b = 5 And c = 5) Then
'To play sound
MMControl2.Notify = False
MMControl2.Wait = True
MMControl2.Shareable = False
MMControl2.DeviceType = "WaveAudio"
MMControl2.FileName = "C:\ My Documents\VB program\audio\jackpot.wav"
MMControl2.Command = "Open"
MMControl2.Command = "Play"
Label1.Caption = "Congratulation! Jackpot!!! You win 200 dollars!"
amount = amount + 200
```

```

End If
If (a = 3 And b = 4 And c = 5) Or (a = 3 And b = 5 And c = 4) _
Or (a = 4 And b = 3 And c = 5) Or (a = 4 And b = 5 And c = 3) _
Or (a = 5 And b = 4 And c = 3) Or (a = 5 And b = 3 And c = 4) Then
Label1.Caption = "Too bad, you lost 50 dollars"
amount = amount - 50
End If
If amount < 0 Then
Label1.Caption = "Oh! You're bankrupt!"
End If
Text1.Text = Str$(amount)
End If
End Sub

```

To simulate spinning of the shapes

```

Sub spin()
x = x + 10
Randomize Timer
a = 3 + Int(Rnd * 3)
b = 3 + Int(Rnd * 3)
c = 3 + Int(Rnd * 3)
MMControl1.Notify = False
MMControl1.Wait = True
MMControl1.Shareable = False
MMControl1.DeviceType = "WaveAudio"
MMControl1.FileName = "C:\ My Documents\VB program\audio\slot2.wav"
MMControl1.Command = "Open"
MMControl1.Command = "Play"
Label1.Caption = "Good Luck!"
Label1.Alignment = a - 3
Shape1(0).Shape = a
If a = 3 Then
Shape1(0).FillColor = &HFF00&
End If
If a = 4 Then
Shape1(0).FillColor = &HFF00FF
End If

```

```
If a = 5 Then
Shape1(0).FillColor = &HFF0000
End If
Shape1(1).Shape = b
If b = 3 Then
Shape1(1).FillColor = &HFF00&
End If
If b = 4 Then
Shape1(1).FillColor = &HFF00FF
End If
If b = 5 Then
Shape1(1).FillColor = &HFF0000
End If
Shape1(2).Shape = c
If c = 3 Then
Shape1(2).FillColor = &HFF00&
End If
If c = 4 Then
Shape1(2).FillColor = &HFF00FF
End If
If c = 5 Then
Shape1(2).FillColor = &HFF0000
End If
End Sub
```

1.3 Professional Casino Slot Machine

This is a slot machine that resembles the real slot machines in the casinos. To design the UI, insert three image boxes into the form and write code so that they will display a set of three different pictures randomly when the user presses on the spin button. It involves a randomization process. Next, insert a timer and write relevant code to produce animated effects. In addition, insert the **Microsoft Multimedia Control** so that it can play sounds that synchronize with the spinning of the slot machine as well as when the player hits the jackpot.

Next, declare three variables a, b and c that will be randomly assigned the values of, 2 and 3 using the **Rnd** function. Based on these three random numbers, three different images will be loaded into the three image boxes randomly using the **LoadPicture** method. Animated effects are created by entering the procedure under the control **Timer1**, which will call the **spin** procedure after every interval until it fulfills a certain condition, as shown below:

```
Private Sub Timer1_Timer()  
'Call the spin procedure  
spin  
.....The rest of the code.....  
End Sub
```

The spin procedure

```
Sub spin()  
a = 3 + Int(Rnd * 3)  
b = 3 + Int(Rnd * 3)  
c = 3 + Int(Rnd * 3)  
.....The rest of the code....  
End Sub
```

Sounds are added using the Microsoft Multimedia Control to make the game more exciting and interesting. The amount won is controlled by the **If...Then** statements, illustrated as follows:

```
If (a = 3 And b = 3 And c <> 3) Or (a = 3 And c = 3 And b <> 3) Or _  
(b = 3 And c = 3 And a <> 3) Then  
Label1.Caption = " You win 20 dollars"  
amount = amount + 20  
End If
```

It is important that you define the correct path for the **LoadPicture** method; otherwise the program will fail to load the images. For example, our path is **C:\VB program\Images\grape.gif**, you need to create the necessary folders and have the necessary image file if you wish to copy the program directly. If you place the image file in a differently folder, you need to modify the path accordingly. For example, if your image file is in **D:\VB program\Images\grape.gif**, then you need to modify the **LoadPicture** method to **LoadPicture ("D:\VB program\Images\grape.gif")**.

The UI is shown in Figure 1.4.



Figure 1.4

The code

```
Dim x As Integer
```

```
Dim amount As Variant
```

```
Dim balance As Variant
```

```
Dim a, b, c As Integer
```

```
Private Sub Command1_Click()
```

```
End
```

```
End Sub
```

'Code for the Bet on balance button

```
Private Sub betbal_Click()  
Label13.Caption = Str$(Val(Label6.Caption) + Val(Label13.Caption))  
Label6.Caption = ""  
End Sub
```

'Code for the Cash Out button

```
Private Sub Cashout_Click()  
If Val(Label13.Caption) > 0 Then  
balance = Val(Label6.Caption) + Val(Label13.Caption)  
Label13.Caption = ""  
Label6.Caption = Str$(balance)  
Label1.Caption = "Please bet again"  
Else  
Label1.Caption = "Sorry, you have no money to cash out."  
End If  
End Sub
```

```
Private Sub Form_Click()  
Label3.Visible = False  
End Sub
```

```
Private Sub Form_Load()  
Label1.Caption = " Welcome to Play"  
Label3.Visible = False  
Image1(0).Picture = LoadPicture("C:\My Documents\VB &_ program\Images\grape.gif")  
Image1(1).Picture = LoadPicture("C:\My Documents\VB &_ program\Images\cherry.gif")  
Image1(2).Picture = LoadPicture("C:\ My Documents\ VB &_ program\Images\orange.gif")  
End Sub
```

'To show instruction on a label control

```
Private Sub instruct_click()  
Label3.Visible = True  
End Sub  
  
Private Sub Label12_Click()  
Label13.Caption = Str$(Val(Label13.Caption) + Val(Text2.Text))  
Text2.Text = ""  
End Sub
```


'The spin procedure

```
Private Sub spin_Click()  
Timer1.Enabled = True  
MMControl1.Command = "Close"  
MMControl2.Command = "close"  
x = 0  
amount = Val(Text1)  
balance = Val(Label6)  
End Sub
```

'Code for the Spin button

```
Private Sub spinning_Click()  
If Val(Label13.Caption) > 0 Then  
Timer1.Enabled = True  
MMControl1.Command = "Close"  
MMControl2.Command = "close"  
x = 0  
amount = Val(Label13.Caption)  
balance = Val(Label6)  
Else  
Label1.Caption = "Sorry, you have no money to spin, add cash."  
End If  
End Sub
```

'To stop the game

```
Private Sub stop_Click()  
End  
End Sub
```

```
Private Sub Timer1_Timer()
```

'Call the spin procedure

```
spin  
x = x + 20  
If x > 500 Then  
Timer1.Enabled = False  
MMControl1.Command = "Stop"  
Label1.Alignment = 2  
If (a = 3 And b = 3 And c <> 3) Or (a = 3 And c = 3 And b <> 3) Or _  
(b = 3 And c = 3 And a <> 3) Then
```

```

Label1.Caption = " You win 20 dollars"
amount = amount + 20
End If
If (a = 4 And b = 4 And c <> 4) Or (a = 4 And c = 4 And b <> 4) Or _
(b = 4 And c = 4 And a <> 4) Then
Label1.Caption = " You win 30 dollars"
amount = amount + 30
End If
If (a = 5 And b = 5 And c <> 5) Or (a = 5 And c = 5 And b <> 5) Or _
(b = 5 And c = 5 And a <> 5) Then
Label1.Caption = " You win 40 dollars"
amount = amount + 40
End If
If (a = 3 And b = 3 And c = 3) Or (a = 4 And b = 4 And c = 4) Or _
(a = 5 And b = 5 And c = 5) Then
'Playing sound
MMControl2.Notify = False
MMControl2.Wait = True
MMControl2.Shareable = False
MMControl2.DeviceType = "WaveAudio"
MMControl2.FileName = "C:\My Documents\VB _ program\audio\jackpot.wav"
MMControl2.Command = "Open"
MMControl2.Command = "Play"
Label1.Caption = " Congratulation! Jackpot!!! You win 200 dollars!"
amount = amount + 200
End If
If (a = 3 And b = 4 And c = 5) Or (a = 3 And b = 5 And c = 4) Or _
(a = 4 And b = 3 And c = 5) Or (a = 4 And b = 5 And c = 3) Or _
(a = 5 And b = 4 And c = 3) Or (a = 5 And b = 3 And c = 4) Then
Label1.Caption = " Too bad, you lost 100 dollars"
amount = amount - 100
End If
If amount < 0 Then
Label1.Caption = "Oh! you're bankrupt! Add cash to play!"
End If
Label13.Caption = Str$(amount)
End If

```

```

End Sub
'The spin sub procedure
Sub spin()
a = 3 + Int(Rnd * 3)
b = 3 + Int(Rnd * 3)
c = 3 + Int(Rnd * 3)

MMControl1.Notify = False
MMControl1.Wait = True
MMControl1.Shareable = False
MMControl1.DeviceType = "WaveAudio"
MMControl1.FileName = "C:\ My Documents\VBprogram\audio\slot2.wav"
MMControl1.Command = "Open"
MMControl1.Command = "Play"
Label1.Caption = "Good Luck!"
Label1.Alignment = a - 3
If a = 3 Then
Image1(0).Picture = LoadPicture("C:\ My Documents\VB _ program\Images\grape.gif")
End If
If a = 4 Then
Image1(0).Picture = LoadPicture("C:\ My Documents\VBprogram\_ Images\cherry.gif")
End If
If a = 5 Then
Image1(0).Picture = LoadPicture("C:\My Documents\VBprogram\_
Images \orange.gif")
End If
If b = 3 Then
Image1(1).Picture = LoadPicture("C: \ My Documents\VBprogram\_ Images\grape.gif")
End If
If b = 4 Then
Image1(1).Picture = LoadPicture("C: :\ My Documents\VBprogram\_ Images \cherry.gif")
End If
If b = 5 Then
Image1(1).Picture = LoadPicture("C:\ My Documents\VBprogram\_
Images \orange.gif")
End If
If c = 3 Then

```

```
Image1(2).Picture = LoadPicture("C:\ My Documents\VBprogram\_
Images grape.gif")
End If
If c = 4 Then
Image1(2).Picture = LoadPicture("C:\ My Documents\VBprogram\_
Images \cherry.gif")
End If
If c = 5 Then
Image1(2).Picture = LoadPicture("C:\ :\ My Documents\VBprogram\_ Images \orange.gif")
End If
End Sub
```