

Visual Basic Sample Codes

by Dr. Liew Voon Kiong

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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 doctorate in Business Administration. He has been involved in Visual Basic programming for more than 20 years. He created the popular online Visual Basic Tutorial at www.vbtutor.net, which has attracted millions of visitors since 1996. It has consistently been one of the highest ranked Visual Basic websites.

To provide more support for Visual Basic students, teachers, and hobbyists, Dr. Liew has written this book to complement the free Visual Basic 2017 tutorial with much more content. He is also the author of the Visual Basic Made Easy series, which includes **Visual Basic 6 Made Easy**, **Visual Basic 2008 Made Easy**, **Visual Basic 2010 Made Easy**, **Visual Basic 2013 Made Easy** and **Excel VBA Made Easy**. Dr. Liew's books have been used in high school and university computer science courses all over the world.

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Games and Fun

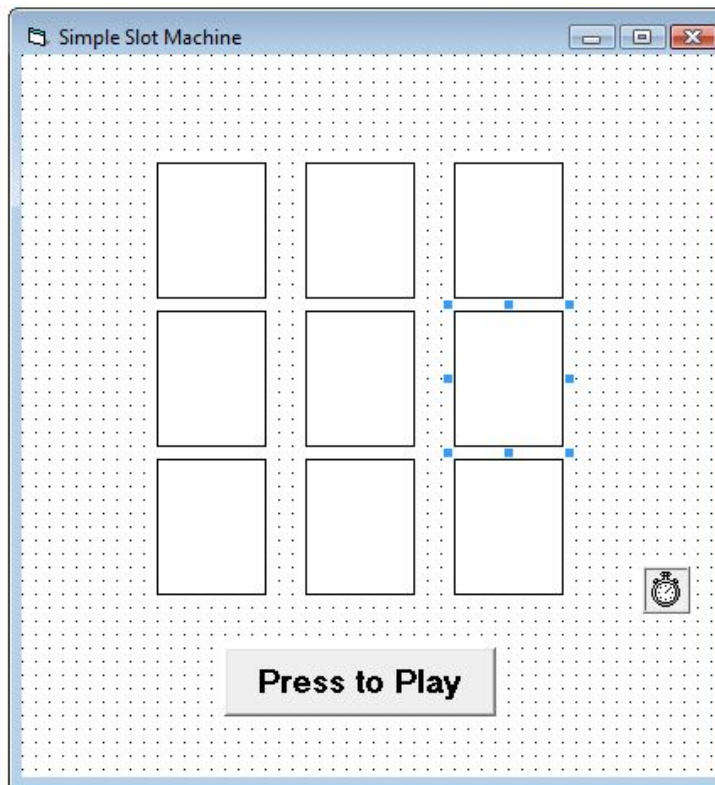
1.1 Simple Animated Slot Machine

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.

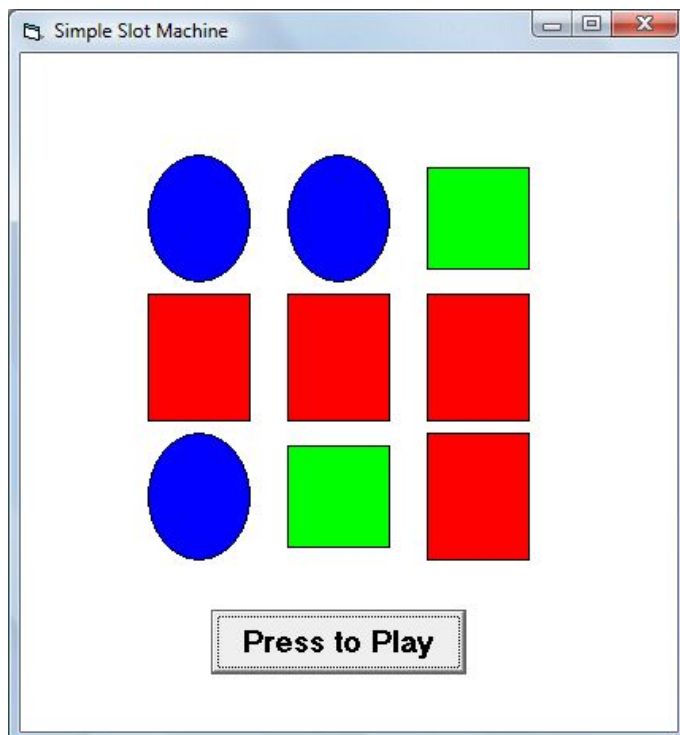
In this program, you need to draw an array of nine shapes, Visual Basic will automatically label the shapes as shape1(0), shape1(1), shape1(2), shape1(3), shape1(4), shape1(5), shape1(6), shape1(7) and shape1(8) respectively. Arrange the shapes into three rows. Write the code so that only three types 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 also need to 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 thus creates the illusion of animation. The program also uses a variable x to control the timer so that it can be stopped when x achieve certain value, otherwise the program will loop forever.

The Design Interface



The Runtime Interface



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. This is an improvement from the simple animated slot machine as the player can enter the amount to bet. Besides that, you can add sound and music to the program. The interface is shown below:



To design the interface, 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. Insert another label control and place it immediately below the first label. This label serves

as display panel for showing how much the user has won. The display here will be animated. Next, 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 differentiated 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 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. 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 they want to bet. In order to let the player enters 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 need to insert a timer and set its interval to 20, which is equivalent to 0.02 second. You also need to set its Enabled property as 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. In order 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 make it appear in the tool box. Now you can drag 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. Set the Visible property of both Microsoft Multimedia Controls as False so that the user will not see them at runtime. Lastly, 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()
Unload Me
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
```

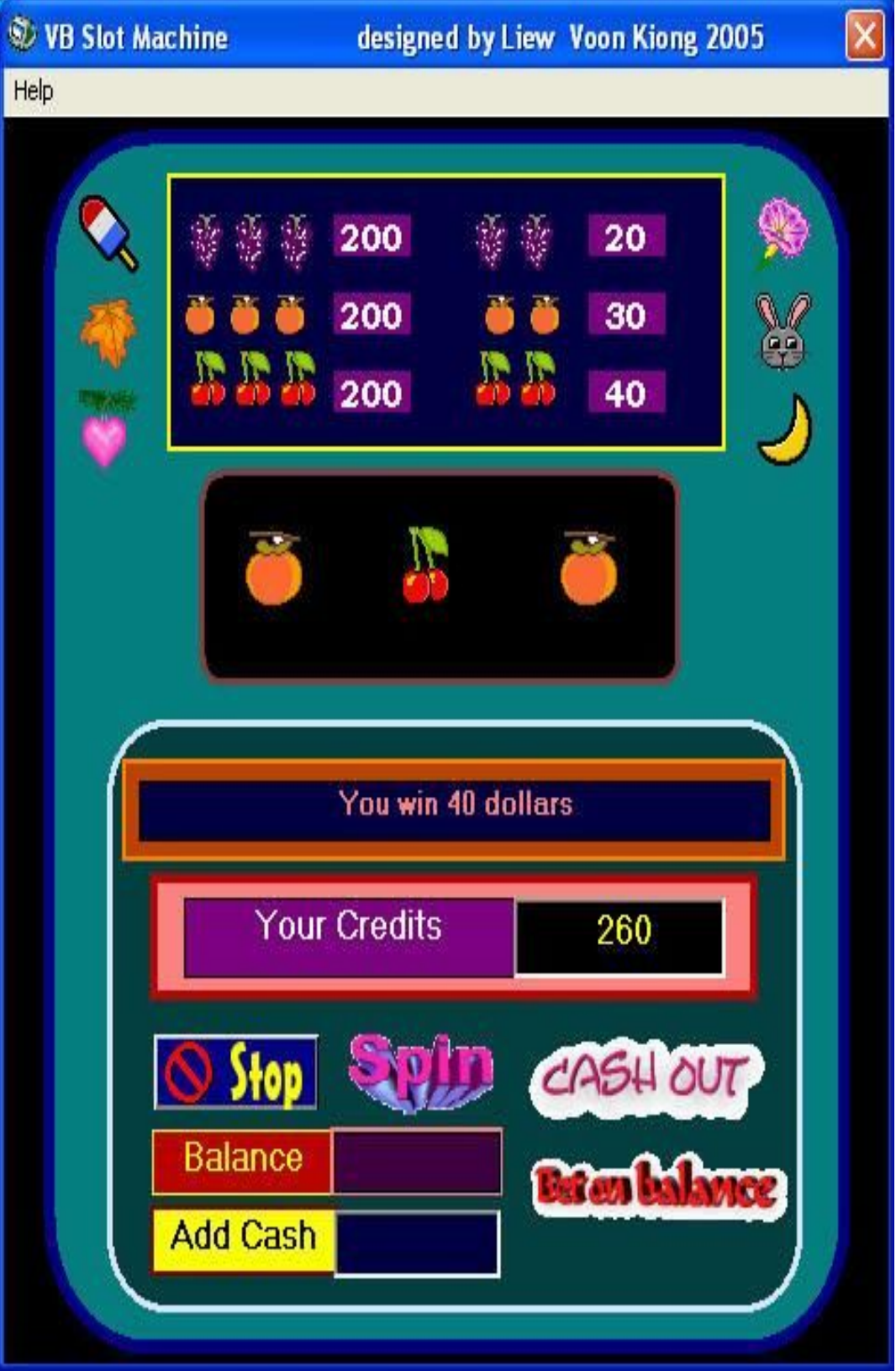
1.3 Professional Casino Slot Machine

This is a slot machine that resembles the real slot machines in the casinos. To create the project, you need to 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, you can also 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.

In the program, you need to declare three variables a, b and c that will be randomly assigned the values of 1, 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 above procedure under the control of Timer1, which will call the **spin** procedure after every interval until it fulfills a certain condition. Sounds are also added using the Microsoft Multimedia Control to make the game more realistic and interesting. The amount won is controlled by the **If...Then** statements

It is important that you define the correct path for the LoadPicture method; otherwise the program will not be able to run. 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 Interface



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 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)
Label11.Caption = "Please bet again"
Else
Label11.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 don't have money to play, 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\_

```

```
Image1\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
```

1.4 Dice

This program creates a die which can be used to play board games. It can also be incorporated into VB games that require a die. VB games that you can create in Visual Basic are step and ladder game, monopoly and more. First of all, you draw a rounded square in the project windows. Secondly, you need to draw an array of seven dots using the shape control. VB will automatically labeled them as shape1(0), shape1(1), shape1(2), shape1(3), shape1(4), shape1(5) and shape1(6). You can control the appearance of the dots using the random function RND. Each time the user click the 'Roll' button, he or she can see different combinations of dots.

The Interface



The Code

```
Private Sub Command1_Click()  
n = Int(1 + Rnd * 6)  
For i = 0 To 6  
    Shape1(i).Visible = False  
Next  
If n = 1 Then  
    Shape1(3).Visible = True  
    Shape2.FillColor = &HC0C0C0
```

```
End If
If n = 2 Then
    Shape1(2).Visible = True
    Shape1(4).Visible = True
    Shape2.FillColor = &H8080FF
End If
If n = 3 Then
    Shape1(2).Visible = True
    Shape1(3).Visible = True
    Shape1(4).Visible = True
    Shape2.FillColor = &H80FF&
End If
If n = 4 Then
    Shape1(0).Visible = True
    Shape1(2).Visible = True
    Shape1(4).Visible = True
    Shape1(6).Visible = True
    Shape2.FillColor = &HFFFF00
End If
If n = 5 Then
    Shape1(0).Visible = True
    Shape1(2).Visible = True
    Shape1(3).Visible = True
    Shape1(4).Visible = True
    Shape1(6).Visible = True
    Shape2.FillColor = &HFFFF&
End If

If n = 6 Then
    Shape1(0).Visible = True
    Shape1(1).Visible = True
    Shape1(2).Visible = True
    Shape1(4).Visible = True
    Shape1(5).Visible = True
    Shape1(6).Visible = True
    Shape2.FillColor = &HFF00FF
End If
End Sub
```