

```
Option Strict Off
Option Explicit On
Imports VB = Microsoft.VisualBasic
Friend Class BATS
    Inherits System.Windows.Forms.Form
    Dim verticalincrement As Short
    Dim horizontalincrement As Short
    Dim horizontaloffset As Short
    Dim verticaloffset As Short
    Dim numberofbats As Short
    Dim counter As Short
    Dim grid(20, 20) As Short
    Dim lineX(63) As Short
    Dim columnY(63) As Short
    Dim loc_index As Short
    Dim numberoffences As Short
    Dim movedirection As Short
    Dim alive As Short
    Dim dead As Short
    Dim flag As String
    Dim col As Integer
    Dim ln As Integer

    Private Sub BATS_Load(ByVal eventSender As System.Object, ByVal eventArgs As System.EventArgs) Handles MyBase.Load
        Dim horizontaloffset As Object
        Randomize(VB.Timer())
        verticaloffset = 10
        horizontaloffset = 100
        verticalincrement = 15
        horizontalincrement = 30
        numberofbats = 12

        Bat(0).Visible = False

        For counter = 1 To 50
            Fence(counter).Width = 30
            Fence(counter).Height = 15
        Next counter

        For counter = 1 To 12
            Bat(counter).Width = 30
            Bat(counter).Height = 15
        Next counter

        YOU.Width = 30
    End Sub
End Class
```

```
YOU.Height = 15
```

```
startnewgame()
```

```
End Sub
```

```
Private Sub startnewgame()
```

```
    Dim col As Object
```

```
    Dim ln As Object
```

```
    dead = 0
```

```
    message.Text = "You are in a field lined with high voltage electric fences and hungry vampire bats. Move to hide  
behind a fence and watch the bats fry and die." ↵
```

```
    message2.Text = "Number of bats:" & Str(numberofbats)
```

```
    YOU.Visible = True
```

```
    For counter = 0 To 50
```

```
        Fence(counter).Visible = False
```

```
        ' make fences invisible
```

```
    Next counter
```

```
    ' Enable all of the move buttons
```

```
    upleft.Enabled = True
```

```
    moveleft.Enabled = True
```

```
    downleft.Enabled = True
```

```
    up.Enabled = True
```

```
    stay.Enabled = True
```

```
    down.Enabled = True
```

```
    upright.Enabled = True
```

```
    moveright.Enabled = True
```

```
    downright.Enabled = True
```

```
    ' THE FOLLOWING LINES SET ALL GRID LOCATIONS TO 0
```

```
    For ln = 1 To 20
```

```
        For col = 1 To 20
```

```
            grid(ln, col) = 0
```

```
        Next col
```

```
    Next ln
```

```
    ' THE FOLLOWING LINES SET UP THE FENCES AROUND THE BORDER AREA
```

```
    ' NOTE: THE CODE VALUE FOR FENCES IS 1
```

```
For ln = 1 To 20
  For col = 1 To 20
    If ln = 1 Or ln = 20 Or col = 1 Or col = 20 Then grid(ln, col) = 1
  Next col
Next ln

' THE FOLLOWING LINES SET UP THE RANDOM LOCATIONS FOR THE BATS
' NOTE: THE CODE NUMBER FOR BATS IS 2

For counter = 1 To 12

OOPS1:
  ln = Int(20 * Rnd() + 1)
  col = Int(20 * Rnd() + 1)

  If grid(ln, col) <> 0 Then
    GoTo OOPS1
  End If

  grid(ln, col) = 2

  Bat(counter).Visible = True

  Bat(counter).Top = ln * verticalincrement + verticaloffset
  Bat(counter).Left = col * horizontalincrement + horizontaloffset

  lineX(counter) = ln
  columnY(counter) = col

Next counter

' THE FOLLOWING LINES PUT THE PLAYER IN A RANDOM LOCATION
' NOTE: THE CODE FOR THE PLAYER IS 3

OOPS2:
  ln = Int(20 * Rnd() + 1)
  col = Int(20 * Rnd() + 1)

  If grid(ln, col) <> 0 Then
    GoTo OOPS2
  End If

  grid(ln, col) = 3

  lineX(13) = ln
  columnY(13) = col
```

```

YOU.Top = ln * verticalincrement + verticaloffset
YOU.Left = col * horizontalincrement + horizontaloffset

' THE FOLLOWING LINES PLACE THE FENCES IN THE GRID
' THE NUMBER OF FENCES IS BETWEEN 35 AND 50 (RANDOM)
' NOTE: THE CODE FOR A FENCE IS 1

numberoffences = Int(15 * Rnd()) + 35           ' FIGURE OUT HOW MANY FENCES

For counter = 1 To numberoffences

OOPS3:
    ln = Int(20 * Rnd() + 1)                     ' CREATE A RANDOM LINE NUMBER
    col = Int(20 * Rnd() + 1)                    ' CREATE A RANDOM COLUMN NUMBER

    If grid(ln, col) <> 0 Then                     ' IS SOMETHING THERE?
        GoTo OOPS3
    End If

    grid(ln, col) = 1                             ' SET THE FENCE CODE = 1

    lineX(counter + 13) = ln                     ' RECORD THE LINE LOCATION
    columnY(counter + 13) = col                  ' RECORD THE COLUMN LOCATION

    Fence(counter).Top = ln * verticalincrement + verticaloffset
    Fence(counter).Left = col * horizontalincrement + horizontaloffset
    Fence(counter).Visible = True

Next counter

End Sub

Private Sub newgame_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles newgame.Click
    startnewgame()
End Sub

Private Sub downleft_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles downleft.Click
    YOU.Top = YOU.Top + verticalincrement
    YOU.Left = YOU.Left - horizontalincrement
    movedirection = 1                             ' MOVE DOWN AND LEFT
    maincode()
End Sub

Private Sub down_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles down.Click
    YOU.Top = YOU.Top + verticalincrement

```

```
        movedirection = 2                                ' MOVE DOWN
        maincode()
    End Sub

    Private Sub downright_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles downright.
        Click
        YOU.Top = YOU.Top + verticalincrement
        YOU.Left = YOU.Left + horizontalincrement
        movedirection = 3                                ' MOVE DOWN AND RIGHT
        maincode()
    End Sub

    Private Sub moveleft_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles moveleft.
        Click
        YOU.Left = YOU.Left - horizontalincrement
        movedirection = 4                                ' MOVE LEEFT
        maincode()
    End Sub

    Private Sub stay_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles stay.Click
        movedirection = 5                                ' STAY IN PLACE
        maincode()
    End Sub

    Private Sub moveright_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles moveright.
        Click
        YOU.Left = YOU.Left + horizontalincrement
        movedirection = 6                                ' MOVE RIGHT
        maincode()
    End Sub

    Private Sub upleft_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles upleft.Click
        YOU.Top = YOU.Top - verticalincrement
        YOU.Left = YOU.Left - horizontalincrement
        movedirection = 7                                ' MOVE UP AND LEFT
        maincode()
    End Sub

    Private Sub up_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles up.Click
        YOU.Top = YOU.Top - verticalincrement
        movedirection = 8                                ' MOVE UP
        maincode()
    End Sub

    Private Sub upright_Click(ByVal eventSender As System.Object, ByVal EventArgs As System.EventArgs) Handles upright.
        Click
        YOU.Top = YOU.Top - verticalincrement
        YOU.Left = YOU.Left + horizontalincrement
        movedirection = 9                                ' MOVE UP AND RIGHT
        maincode()
    End Sub

    Private Sub maincode()
```

MAKEMOVE:

```
    alive = 12 - dead                                ' NUMBER OF BATS STILL ALIVE

    message2.Text = "Number of bats:" & Str(alive)

    ln = lineX(13)                                    ' GET PLAYER'S LOCATION
    col = columnY(13)                                ' GET PLAYER'S LOCATION

    Select Case movedirection                          ' DETERMINE MOVE DIRECTION
        Case 1
            ln = ln + 1
            col = col - 1

        Case 2
            ln = ln + 1

        Case 3
            ln = ln + 1
            col = col + 1

        Case 4
            col = col - 1

        Case 6
            col = col + 1

        Case 7
            ln = ln - 1
            col = col - 1

        Case 8
            ln = ln - 1

        Case 9
            ln = ln - 1
            col = col + 1

    End Select

    '     THE FOLLOWING LINES CLEAR THE PLAYER'S LOCATION AND MOVE THE
    '     PLAYER TO A NEW LOCATION

    grid(lineX(13), columnY(13)) = 0                 ' ZERO OUT OLD LOCATION
```

```

'   SAVE NEW PLAYER LOCATION

If grid(ln, col) = 0 Then
    grid(ln, col) = 3
    lineX(13) = ln
    columnY(13) = col
    GoTo BATLOOP
End If

' IF NEW LOCATION IS EMPTY
' SAVE NEW PLAYER LOCATION
' SAVE NEW COORDINATES
' FOR ROW AND COLUMN

If grid(ln, col) = 1 Then
    flag = "1"
    GoTo winner_loser
End If

' HIT A FENCE OR A BAT
' SET FLAG

If grid(ln, col) = 2 Then
    flag = "2"
    GoTo winner_loser
End If

' HIT A FENCE OR A BAT
' SET FLAG

BATLOOP: ' LOOP FOR ALL 12 BATS

For loc_index = 1 To 12
    Bat(loc_index).Visible = False

    If grid(lineX(loc_index), columnY(loc_index)) <> 2 Then
        GoTo BOTTOM_LOOP
    End If

    ' if not a bat

    grid(lineX(loc_index), columnY(loc_index)) = 0
    ' ZERO OUT PREVIOUS LOCATION

MOVEBAT:

    If lineX(loc_index) >= ln Then GoTo up_move
    lineX(loc_index) = lineX(loc_index) + 1
    ' MOVE DOWN

up_move:

    If lineX(loc_index) <= ln Then GoTo right_move
    lineX(loc_index) = lineX(loc_index) - 1
    ' MOVE UP

right_move:

    If columnY(loc_index) >= col Then GoTo left_move
    columnY(loc_index) = columnY(loc_index) + 1
    ' MOVE RIGHT

    If columnY(loc_index) <= col Then GoTo CHECK

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left_move:    If columnY(loc_index) <= col Then GoTo CHECK
              columnY(loc_index) = columnY(loc_index) - 1           ' MOVE LEFT

CHECK:
              If grid(lineX(loc_index), columnY(loc_index)) <> 1 And grid(lineX(loc_index), columnY(loc_index)) <> 2 Then
                  GoTo SHOWBAT
              End If

              dead = dead + 1                                         ' INCREMENT THE DEAD COUNTER

              If dead = 12 Then                                       ' ALL BATS ARE DEAD
                  flag = "4"                                         ' WIN THE GAME
                  GoTo winner_loser
              End If

              GoTo BOTTOM_LOOP                                         ' BRANCH TO BOTTOM OF LOOP

SHOWBAT:
              Bat(loc_index).Visible = True

              Bat(loc_index).Top = lineX(loc_index) * verticalincrement + verticaloffset
              Bat(loc_index).Left = columnY(loc_index) * horizontalincrement + horizontaloffset

              If grid(lineX(loc_index), columnY(loc_index)) = 3 Then  ' THE BAT HIT "YOU"
                  flag = "3"                                         ' SET FLAG
                  GoTo winner_loser
              End If

              grid(lineX(loc_index), columnY(loc_index)) = 2         ' SAVE THE BAT'S NEW LOCATION

BOTTOM_LOOP:
              Next loc_index                                         ' BOTTOM OF LOOP

              alive = 12 - dead                                       ' NUMBER OF BATS STILL ALIVE
              message2.Text = "Number of bats:" & Str(alive)
              GoTo bottomroutine

winner_loser:
              upleft.Enabled = False
              moveleft.Enabled = False
              downleft.Enabled = False
              up.Enabled = False
              stay.Enabled = False
              down.Enabled = False
              upright.Enabled = False
```

```
moveright.Enabled = False
downright.Enabled = False

message.Text = ""

Select Case flag
    Case "1"
        YOU.Visible = False
        message2.Text = "Oops, you hit a fence. Sorry, you lose!"
    Case "2"
        YOU.Visible = False
        message2.Text = "Oh no, you hit a bat. Sorry you lose!"
    Case "3"
        YOU.Visible = False
        message2.Text = "Ouch, a bat got you. Sorry, you lose!"
    Case "4"
        message2.Text = "Congratulations, you win!"
End Select

bottomroutine: ' end of the subroutine

End Sub

Private Sub quit_Click(ByVal eventSender As System.Object, ByVal eventArgs As System.EventArgs) Handles quit.Click
    End
End Sub
End Class
```