

VB亂數應用

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亂數

- Randomize → 產生打亂規則的公式種子
- Rnd() → 產生0 – 1間的實數
 - $0 \leq \text{Rnd()} < 1$ → $n * 0 \leq n * \text{Rnd()} < n * 1$
 - $0 \leq \text{int}(n * \text{Rnd}()) \leq n - 1$
- 硬幣(正、反面)
- 骰子(1-6點)
- 發牌(52張, 4種花色, 每種1-13點)
- 樂透(1-49數字中產生6個號碼+1個特別碼)

作出畫面



Form之Resize事件(.net沒有)

- 當表單產生改變時觸發之
- Windowstate → 0 (預設), 1 (最小化), 2 (最大化)
- 可設定其上物件隨之改變
- Form1.width, Form1.height, Form1.left, Form1.top

部分程式碼

```
Private Sub Form_Load()  
T1.Text = ""  
enter = Chr(13) & Chr(10)  
C1(0).Caption = "硬幣"  
C1(1).Caption = "骰子"  
C1(2).Caption = "樂透"  
C1(3).Caption = "發牌"  
C1(4).Caption = "清文字"  
End Sub
```

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部分程式碼(.net沒有)

```
Private Sub Form_Resize()  
T1.Left = 10: T1.Top = 10 : T1.Width = Form1.Width - 200  
T1.Height = Form1.Height - 900  
  
For i = 0 To 4  
C1(i).Height = 300 : C1(i).Top = T1.Height + 100  
Next  
  
MsgBox "form1=" & Form1.Height & " " & Form1.Width  
MsgBox "t1=" & T1.Height & " " & T1.Width  
End sub
```

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硬幣(正、反面)

- $0 \leq \text{int}(2 * \text{Rnd}()) \leq 2-1$
- $1 \leq \text{int}(2 * \text{Rnd}()) + 1 \leq 2$

文字方塊唯讀屬性

- Multiline → true or false

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硬幣

T1.Text = T1.Text & “硬幣:”

tt = Int(2 * Rnd()) + 1

Select Case tt

**Case 1: T1.Text = T1.Text & "¥;-±" &
enter**

**Case 2: T1.Text = T1.Text & "¤I-±" &
enter**

End Select

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骰子 (1-6點)

- $0 \leq \text{int}(6 * \text{Rnd}()) \leq 6-1$
- $1 \leq \text{int}(6 * \text{Rnd}()) + 1 \leq 6$

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骰子

```
T1.Text = T1.Text & “骰子:” & Int(6 * Rnd())  
+ 1 & “點” & enter
```

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樂透 (1-42數字中產生6個號碼+1個特別碼)

- $0 \leq \text{int}(42 * \text{Rnd}()) \leq 42-1$
- $1 \leq \text{int}(42 * \text{Rnd}()) + 1 \leq 42$

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樂透

```
Dim a(42)
T1.Text = T1.Text & "樂透: "
i = 1
Do While i <= 7
    tt = Int(42 * Rnd()) + 1
    If a(tt) = 0 Then a(tt) = 1: i = i + 1
Loop
For i = 1 To 42
    If a(i) = 1 Then T1.Text = T1.Text & i & " "
Next
T1.Text = T1.Text & enter
```

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發牌 (52張, 4種花色, 每種1-13點)

- $0 \leq \text{int}(4 * \text{Rnd}()) \leq 4-1$
- $1 \leq \text{int}(4 * \text{Rnd}()) + 1 \leq 4$

- $0 \leq \text{int}(13 * \text{Rnd}()) \leq 13-1$
- $1 \leq \text{int}(13 * \text{Rnd}()) + 1 \leq 13$

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發牌

```
Dim c(52), p(52), i, tt, j, k
T1.Text = T1.Text & "發牌:" & ent
i = 0
Do While i < 52
    tt = Int(52 * Rnd()) ' 0-51
    If p(tt) = 0 Then c(i) = tt : p(tt) = 1 : i = i + 1
Loop

For i = 0 To 51 Step 13
    For j = i To i + 12
        k = c(j) \ 13
        Select Case k
            Case 0: tt = "S"
            Case 1: tt = "H"
```

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發牌

```
Case 2: tt = "D"  
Case 3: tt = "C"  
End Select  
k = c(j) Mod 13  
If k <= 9 Then  
    tt &= (k + 1)  
Else  
    Select Case k  
        Case 10: tt &= "J"  
        Case 11: tt &= "Q"  
        Case 12: tt &= "K"  
    End Select  
End If  
T1.Text &= tt & " "  
Next  
T1.Text &= ent  
Next
```

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