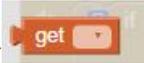
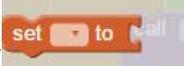
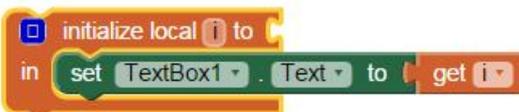
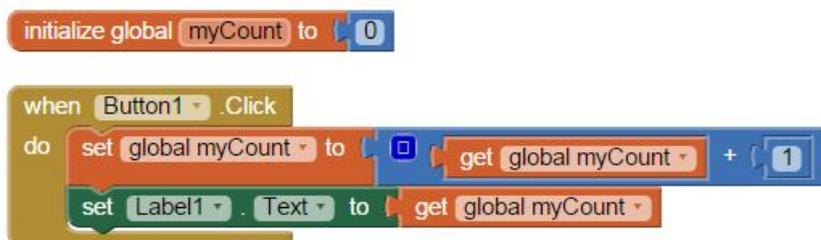


## App inventor 2 範例

變數用來暫存資料，需提供讀取與存入變數功能

- 讀取變數 
- 存入變數 
- 宣告全域變數  若在 screen1 宣告的全域變數，screen1 任何位置可存取
- 例如宣告 i 變數初值為 0 
- 宣告區域變數 ，僅在該區域範圍內。
- 如要表達 vb 的  $sum = sum + num$  
- 如要表達 vb 的 `textbox1.text=i` 

### 全域變數範例



## App inventor 2 範例

### 範例 1:華氏轉攝氏

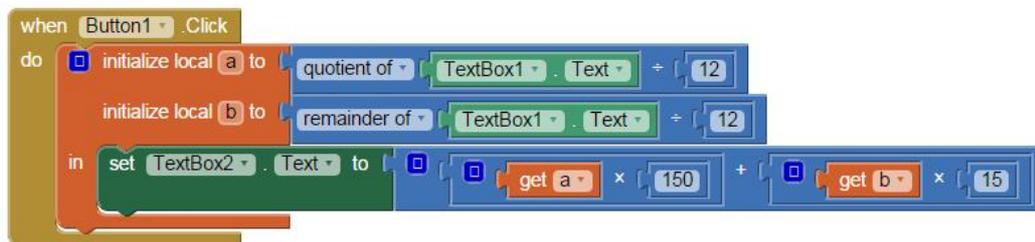


**Textbox2.text=(textbox1.text-32)\*5/9**

---

### 範例 2:買飲料

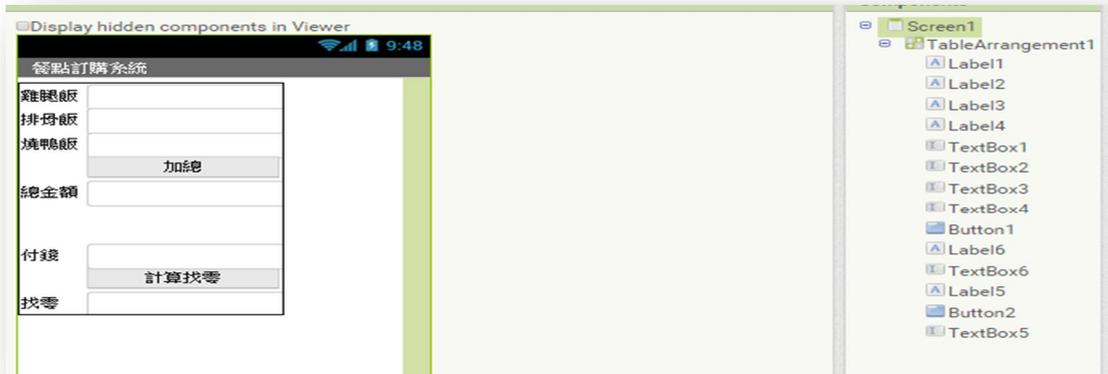
飲料 1 罐 15 元，一打(12 罐)150 元，假設消費者不會多買，不足一打以單罐計算，請計算購買數量所需的金額。



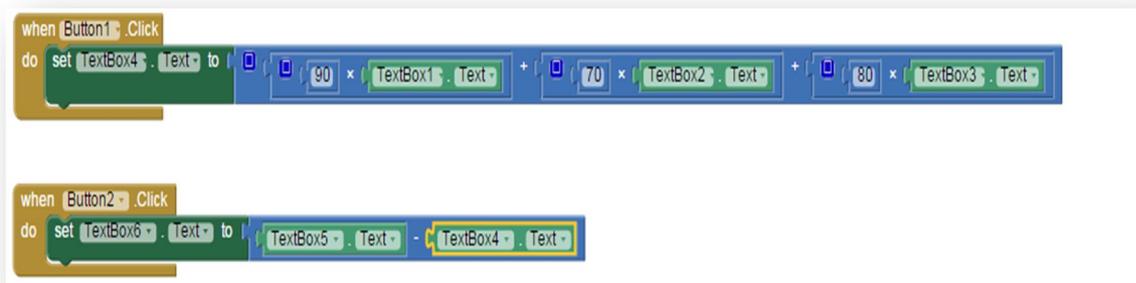
```
計算買飲料.txt - 記事本
檔案(E) 編輯(E) 格式(O) 檢視(V) 說明(H)
a=textbox1.text\12
b=textbox1.text mod 12
textbox2.text=(a*150)+(b*15)
```

## 範例 3:餐點訂購系統

雞腿飯 90 元，排骨飯 70 元，燒鴨飯 80 元，依使用者輸入數量，計算總金額與找零。



Textbox1 雞腿飯的數量 Textbox2 排骨飯的數量 Textbox3 燒鴨飯的數量



總金額(textbox4)  $\text{Textbox4.text} = 90 * \text{textbox1.text} + 70 * \text{textbox2.text} + 80 * \text{textbox3.text}$   
付錢(textbox5) 找零(textbox6)  $\text{Textbox6.text} = \text{textbox5.text} - \text{textbox4.text}$

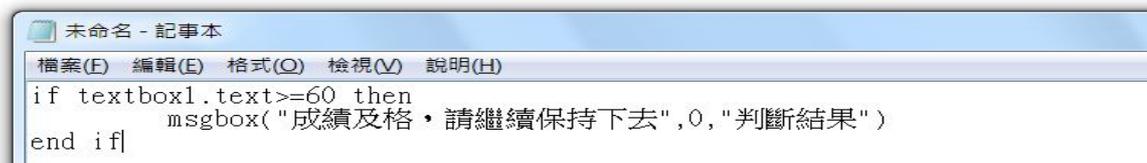
雞腿飯	1
排骨飯	2
燒鴨飯	3
	加總
總金額	470
付錢	500
	計算找零
找零	30

## App inventor 2 範例

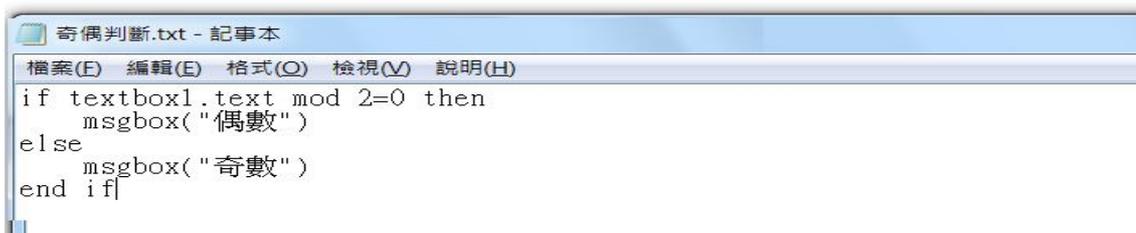
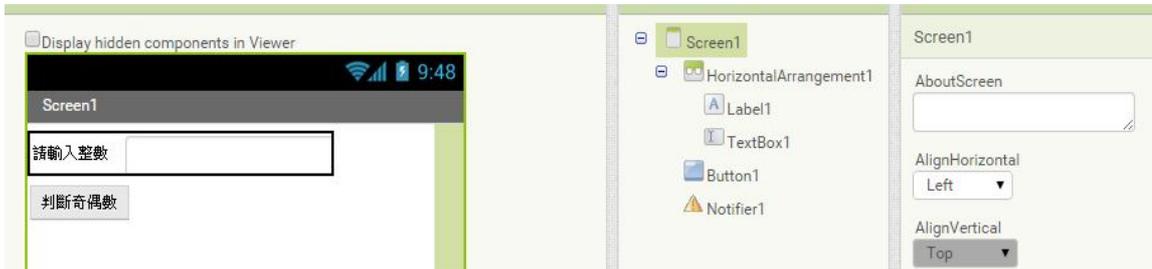
### 範例 4:外幣兌換新台幣



### 範例 5:成績結果判斷

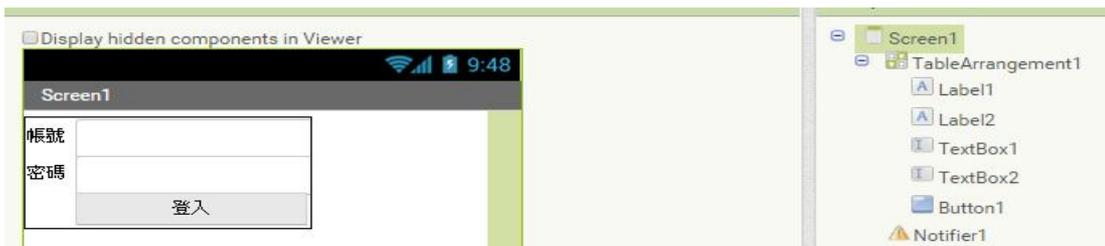


## 範例 6:判斷奇數或偶數

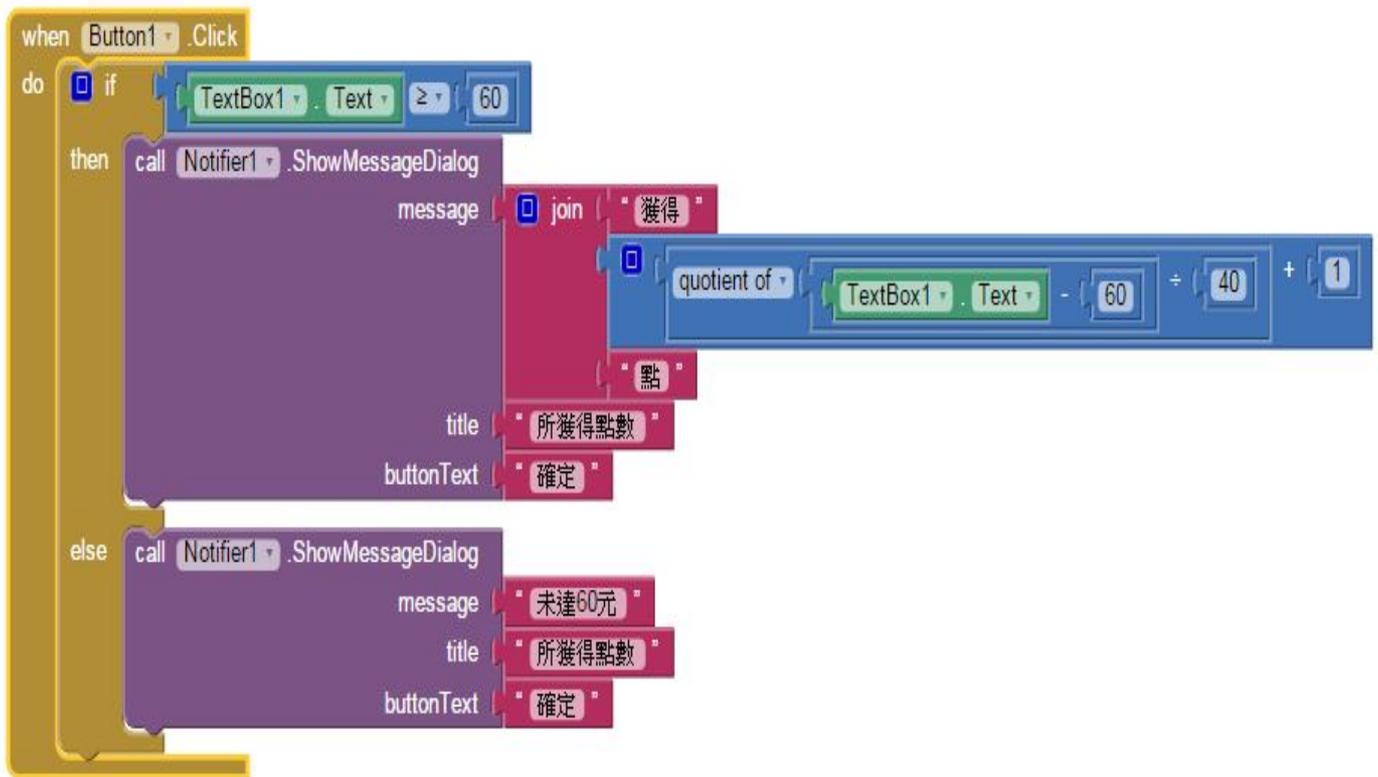
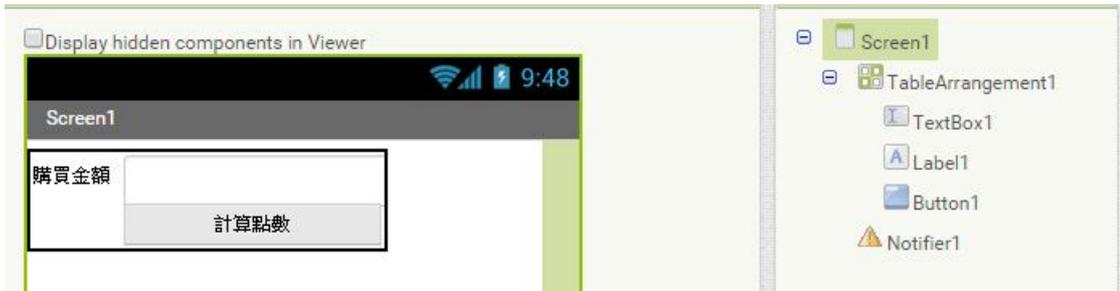


---

## 範例 7: 帳號密碼驗證



## 範例 8:計算點數



檔案(E) 編輯(E) 格式(O) 檢視(V) 說明(H)

```
if textbox1.text>=60 then
  msgbox("獲得" & ((textbox1.text-60)\40+1) & "點",0,"所獲得點數")
else
  msgbox("未達60元" ,0,"所獲得點數")
end if
```

## App inventor 2 範例

### Vb 的 msgbox 格式參考

如果你想要做出可以更改圖示及回復按鈕的msgbox的話:

```
MsgBox("你要顯示的字串", 回復按鈕 + 圖示)
```

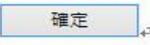
```
MsgBox("你要顯示的字串", 0 + 64)
```

[請點選觀看圖片](#)

圖示的代碼列表:

代碼	常數符號	圖示
16	<u>vbCritical</u>	
32	<u>vbQuestion</u>	
48	<u>vbExclamation</u>	
64	<u>vbInformation</u>	

按鈕代碼列表:

代碼	常數符號	回復按鈕
0	<u>vbOKOnly</u>	
1	<u>vbOKCancel</u>	
2	<u>vbAbortRetryIgnore</u>	
3	<u>vbYesNoCancel</u>	
4	<u>vbYesNO</u>	

```
X = MsgBox("你有女朋友嗎", 4 + 32, "小知")
```

```
  If X = 6 Then
```

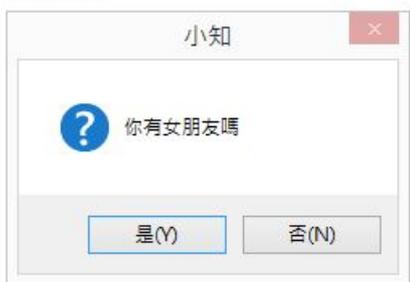
```
    MsgBox("好好喔", 0 + 64, "小知")
```

```
  Else
```

```
    MsgBox("加油!", 0 + 64, "小知")
```

```
  End If
```

範例圖片:



## 範例 9:成績與等第

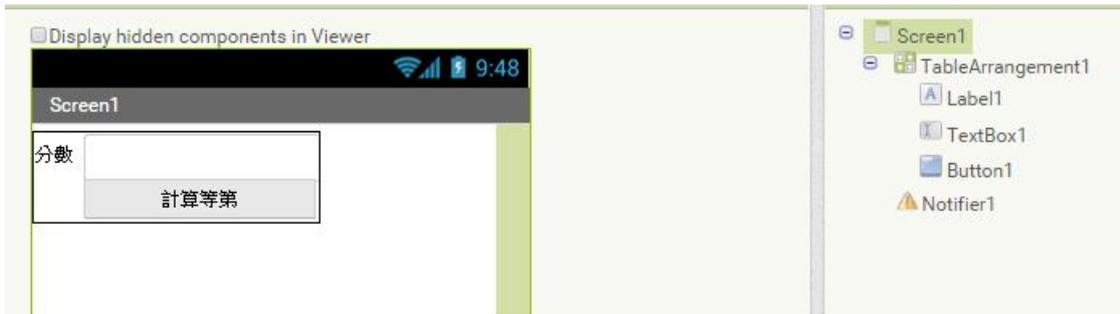
90-100 優等

80-89 甲等

70-79 乙等

60-69 丙級

59 丁等



```
when Button1.Click
do
  if TextBox1.Text >= 90
  then call Notifier1.ShowDialog
      message "優等"
      title "等第"
      buttonText "確定"
  else if TextBox1.Text >= 80
  then call Notifier1.ShowDialog
      message "甲等"
      title "等第"
      buttonText "確定"
  else if TextBox1.Text >= 70
  then call Notifier1.ShowDialog
      message "乙等"
      title "等第"
      buttonText "確定"
  else if TextBox1.Text >= 60
  then call Notifier1.ShowDialog
      message "丙等"
      title "等第"
      buttonText "確定"
  else call Notifier1.ShowDialog
      message "丁等"
      title "等第"
      buttonText "確定"
```

## 範例 10: BMI 計算

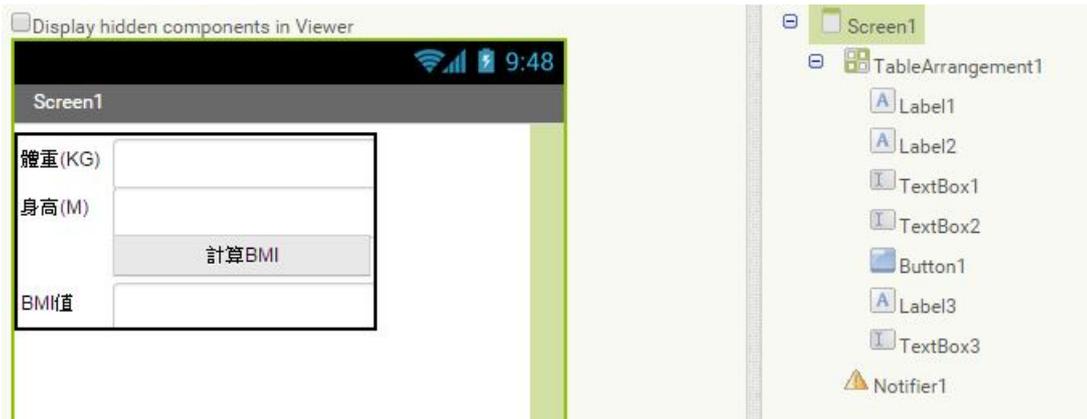
BMI<18 體重過輕

18<=BMI<24 體重正常

24<=BMI<27 稍微過重

27<=BMI<30 輕度肥胖

30<=BMI 肥胖



```
when Button1 . Click
do
  initialize local w to TextBox1 . Text
  initialize local h to TextBox2 . Text
  in
    initialize local BMI to (get w) / ((get h) * (get h))
  in
    set TextBox3 . Text to get BMI
    if (get BMI) < 18
    then call Notifier1 . ShowAlert notice "體重過輕"
    else if (get BMI) < 24
    then call Notifier1 . ShowAlert notice "體重正常"
    else if (get BMI) < 27
    then call Notifier1 . ShowAlert notice "稍微過重"
    else if (get BMI) < 30
    then call Notifier1 . ShowAlert notice "輕度肥胖"
    else call Notifier1 . ShowAlert notice "肥胖"
```

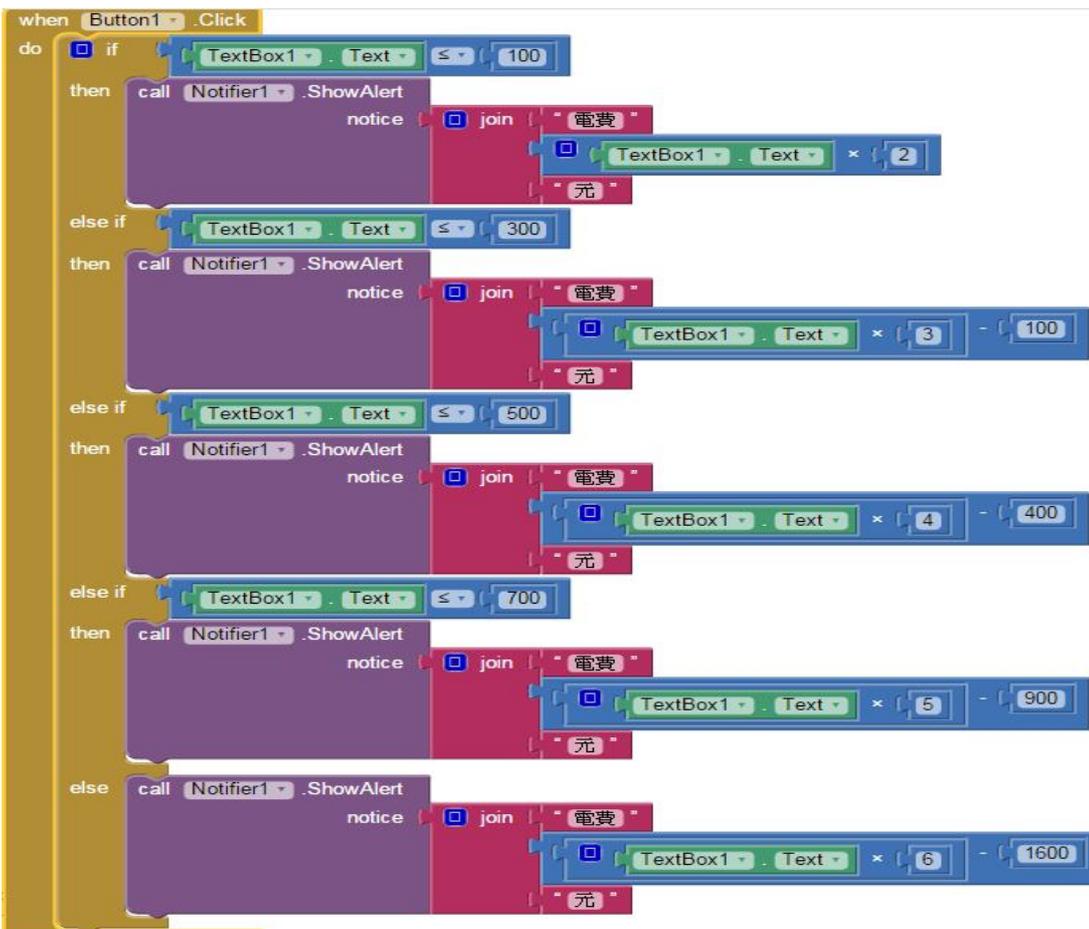
## 範例 11:電費計算



度數	每度價格	累進差額
0<X<=100	2	0
100<X<=300	3	100
300<X<=500	4	400
500<X<=700	5	900
700<X	6	1600

```

if textbox1.text<=100 then MsgBox("電費" & textbox1.text*2 & "元")
elseif textbox1.text<=300 then MsgBox("電費" & (textbox1.text*3) -100 & "元")
elseif textbox1.text<=500 then MsgBox("電費" & (textbox1.text*4) -400 & "元")
elseif textbox1.text<=700 then MsgBox("電費" & (textbox1.text*5) -900 & "元")
else MsgBox("電費" & (textbox1.text*6) -1600 & "元")
end if
    
```



## 範例 12:產生 1-10 數字



圖表 2 For 迴圈範例拼塊編輯

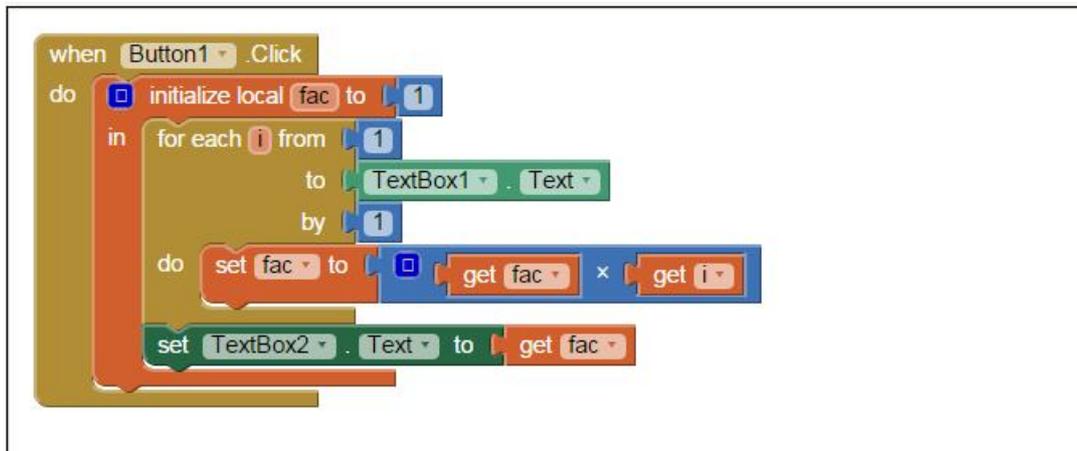
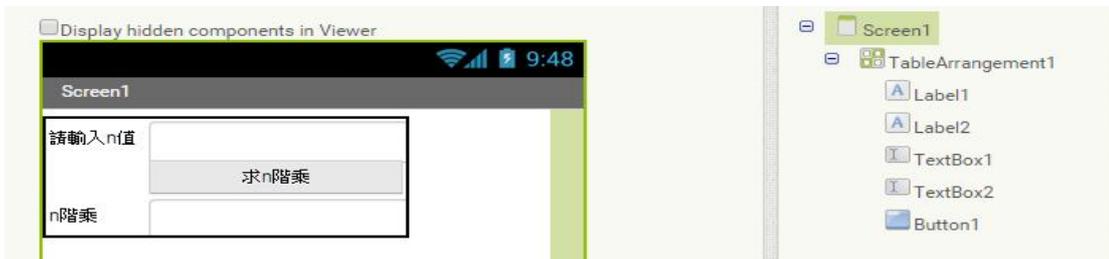
10. 用模擬器看執行結果如下圖。



## 範例 13:求階層



佈置

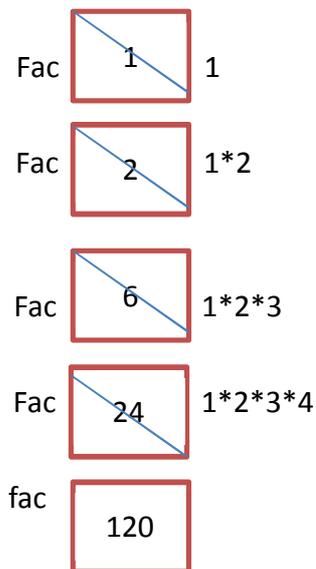


```

fac=1
for i=1 to textbox1.text
  fac=fac*i
  textbox2.text=fac
next i

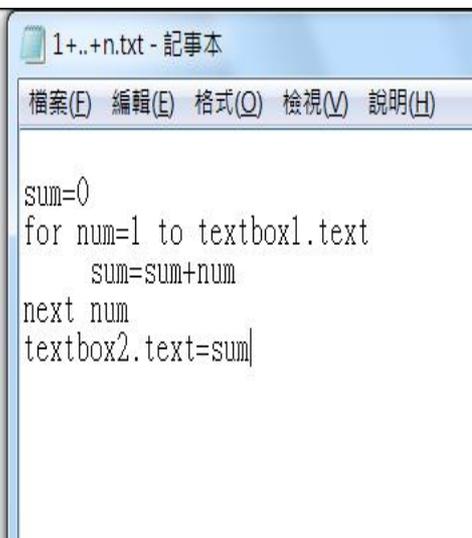
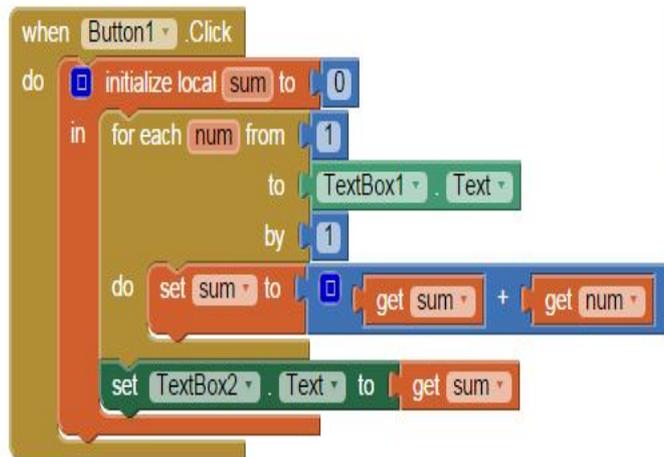
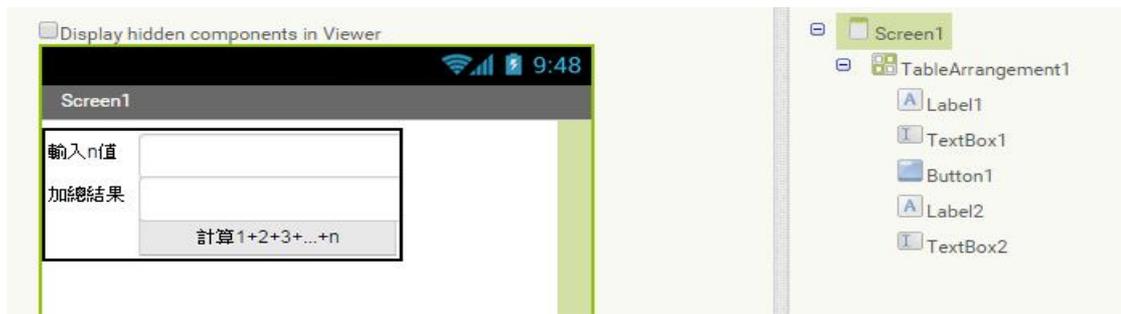
若textbox1.text=5

i fac=fac      *   i
1   1          *   1
2   (1)        *   2
3   (1*2)      *   3
4   (1*2*3)    *   4
5   (1*2*3*4)* 5
    
```

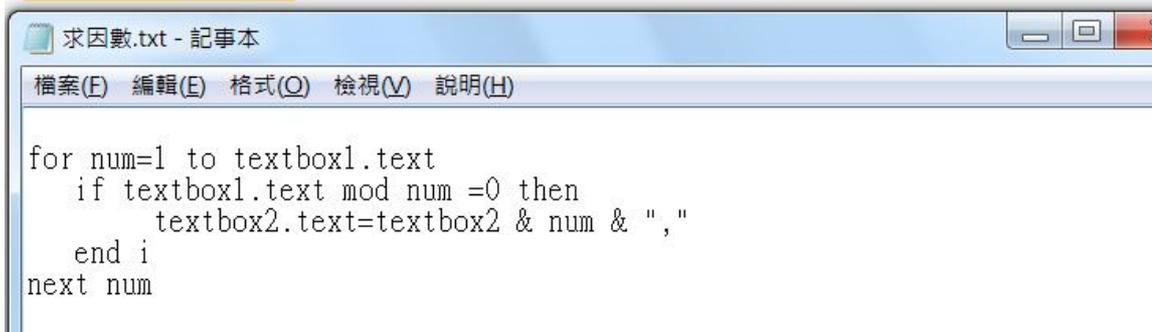
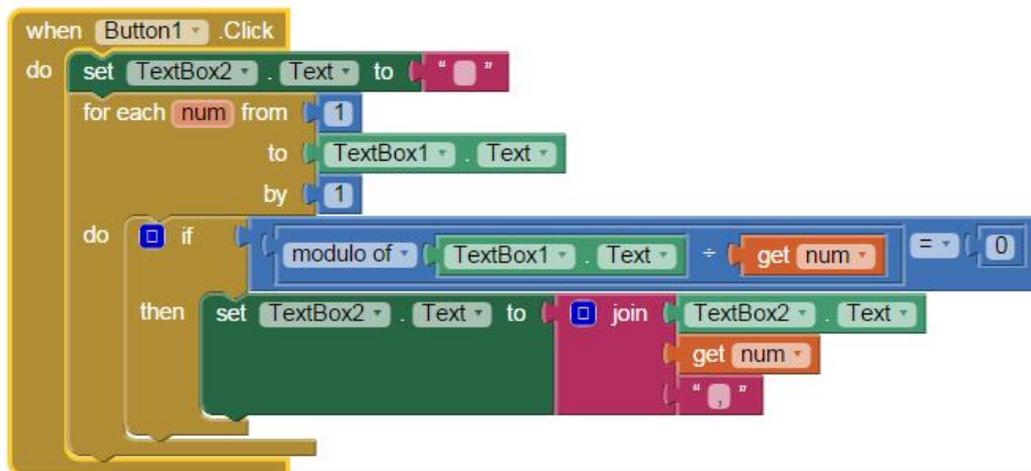


## App inventor 2 範例

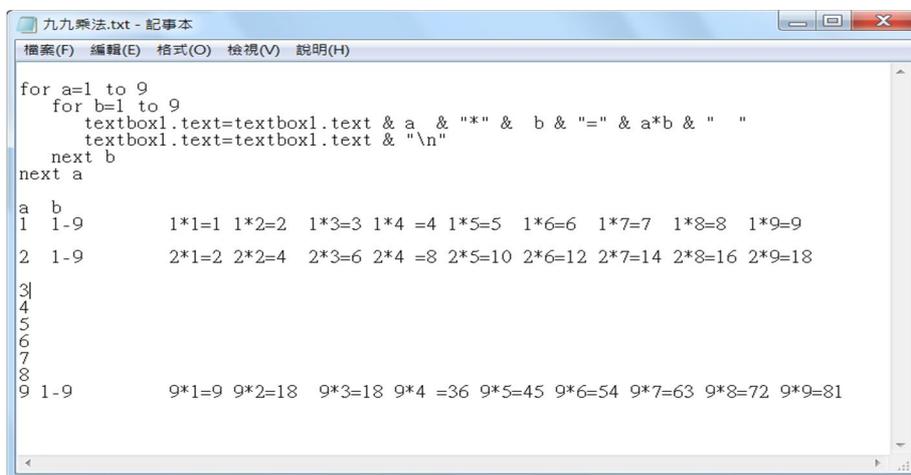
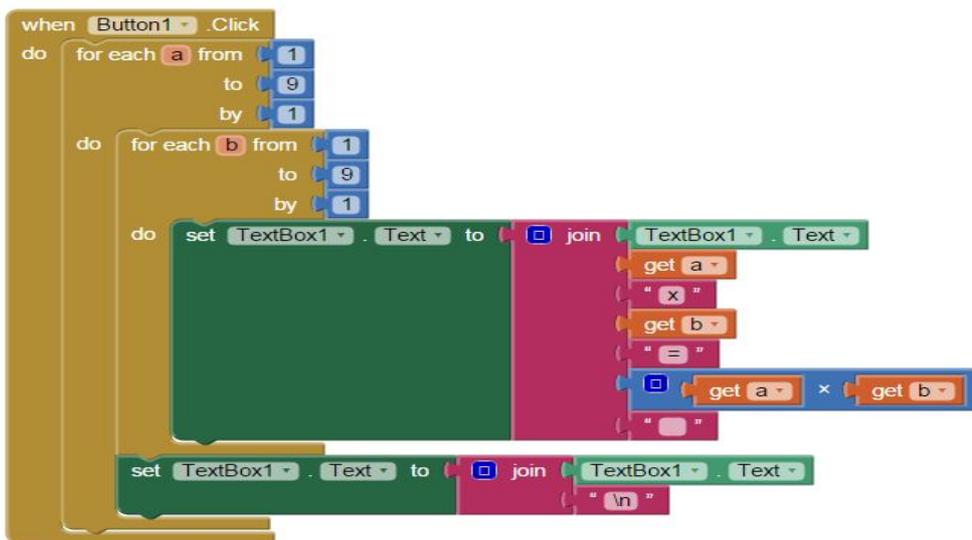
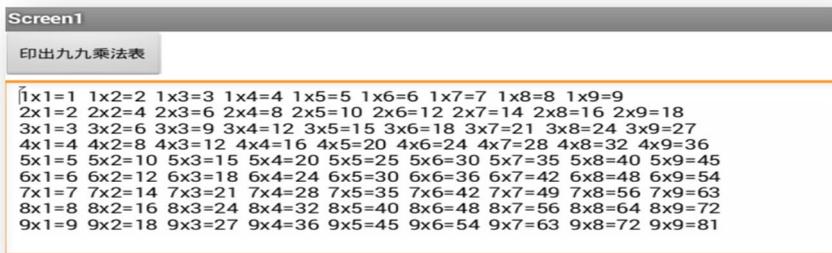
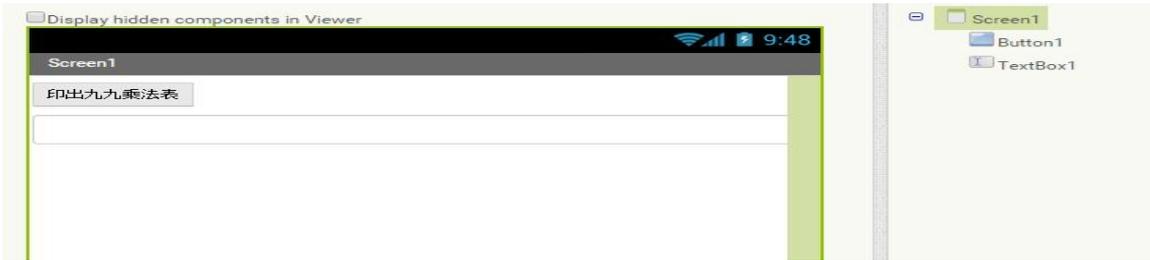
### 範例 14:1+2+.....+N



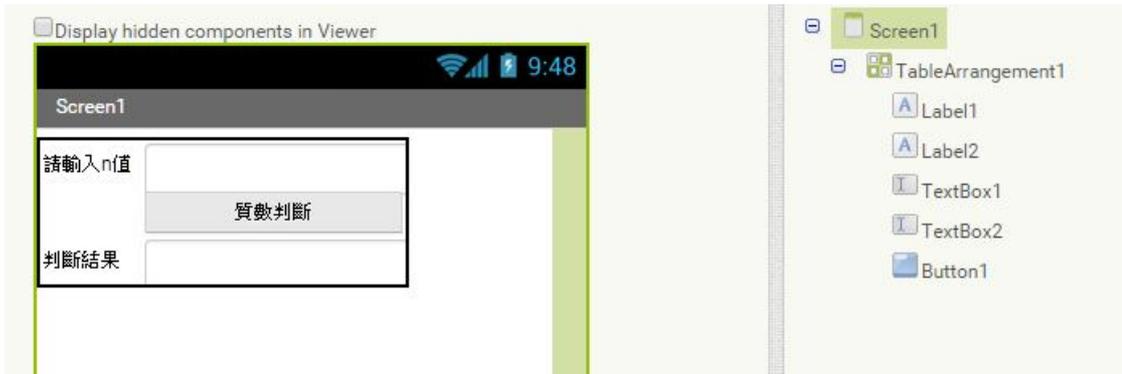
## 範例 15:求因數



## 範例 16:九九乘法表



## 範例 17:質數判斷



```
when Button1.Click
do
  initialize local flag to true
  initialize local i to 2
  initialize local n to TextBox1.Text
  in while test
    get i < get n and get flag == true
  do
    if modulo of get n ÷ get i == 0
    then set flag to false
    set i to get i + 1
    if get flag == true
    then set TextBox2.Text to join get n, "是質數"
    else set TextBox2.Text to join get n, "不是質數"
```

```
求質數.txt - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明(H)

flag=true
do while i<n and flag=true
  if n mod i =0 then
    flag=false
  end if
  i+=1
loop

if flag=true then
  textbox2.text & "n" & "是質數"
else
  textbox2.text & "n" & "不是質數"
end if
```

預設 flag=true

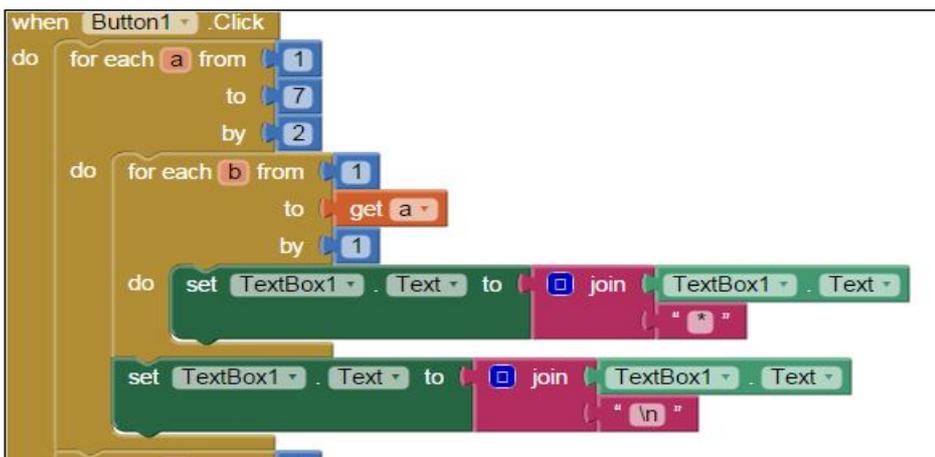
當按下 button1 時 flag=true，當 flag=true 表示 n 是質數

Flag=false 表示非質數

## 範例 18: 印圖形



### 畫面佈置



### 程式碼說明

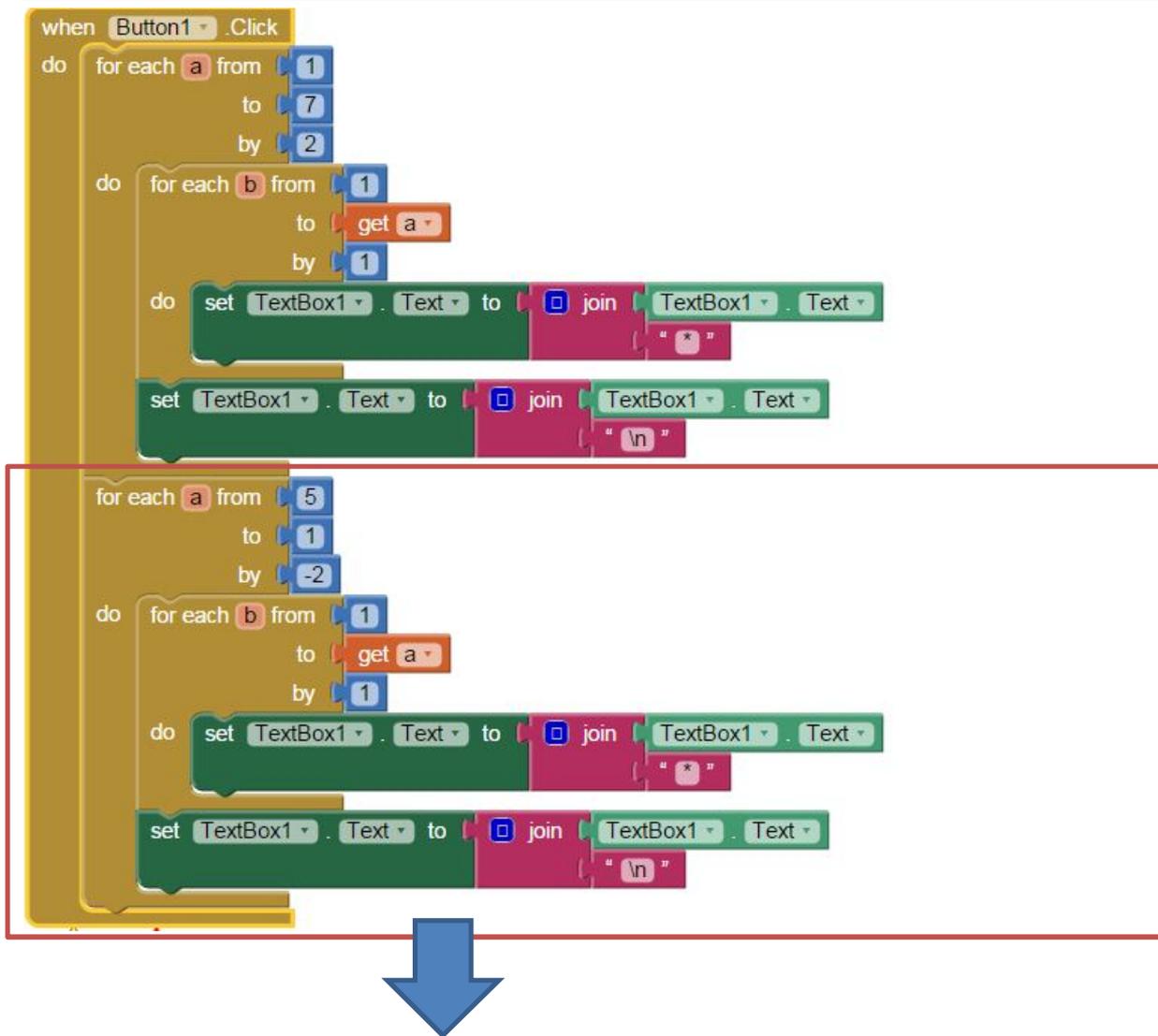
```
上三角型 程式碼說明
for a=1 to 7 step 2
  for b=1 to a step 1
    textbox1.text+="*"
  next b
  textbox1.text+ &="\n"
next a

a b
1 1
3 123
5 12345
7 1234567

印出結果
*
***
*****
*****
```

聰明的你(妳)能印出下三角形嗎?動手做做看吧

## App inventor 2 範例



```
for a=5 to 1 step -2
  for b=1 to a step 1
    textbox1.text =textbox1.text & "*"
  next b
  textbox1.text &= "\n"
next a
a b
5 12345
3 123
1 1

印出結果
*****
***
*|
```

## 範例 19:樂透開獎



```

initialize global num to make a list

when Button1.Click
do
  set global num to make a list
  set TextBox3.Text to ""
  for each i from 1
    to TextBox1.Text
    by 1
  do
    add items to list list
    item get global num
    get i

  initialize local lotto to make a list
  initialize local x to
  in for each i from 1
    to TextBox2.Text
    by 1
  do
    set x to pick a random item list
    get global num
    add items to list list
    item get lotto
    get x
    remove list item list
    index index in list thing
    get x
    list get global num

  for each item in list
    do
      set TextBox3.Text to join
      TextBox3.Text
      get item
      "\n"
  
```

初始化 num 為空陣列

每一次使用先清空 textbox3.text

產生所有可以開獎的數字  
產生 1-textbox1.text 個數值  
加入 num 陣列，例 1-49

初始化 lotto 為空陣列

產生 TEXTBOX2.TEXT 個數值  
每次從陣列中排出一個數 x  
將 x 放入 lotto 陣列  
Lotto 陣列是已開獎的號碼

Remove list item 將陣列 num 中的數字 x 移除

顯示陣列 lotte 中的所有元素

## 範例 20:spinner 選單練習

```
initialize global name to [make a list]
  "三重分區"
  "雙和分區"
  "文山分區"
  "三鶯分區"
  "淡水分區"
  "瑞芳分區"
  "板橋分區"
  "新莊分區"
  "七星分區"
```

```
when Screen1.Initialize
do
  set Spinner1.Elements to get global name
  set ListView1.Elements to get global name
```

```
when Spinner1.AfterSelecting
  selection
do
  call Notifier1.ShowAlert
  notice get selection
```

```
when ListView1.AfterPicking
do
  call Notifier1.ShowAlert
  notice ListView1.Selection
```



# App inventor 2 範例



## 佈置



# App inventor 2 範例

```
when Button2 . Click
do
  call Spinner1 . DisplayDropdown
  set Label1 . Text to Spinner1 . Selection
  if Spinner1 . SelectionIndex = 1
  then set Image2 . Picture to "pineapple.jpg"
  else if Spinner1 . SelectionIndex = 2
  then set Image2 . Picture to "apple.jpg"
  else if Spinner1 . SelectionIndex = 3
  then set Image2 . Picture to "banana.jpg"
  else if Spinner1 . SelectionIndex = 4
  then set Image2 . Picture to "strawberry.jpg"
  else if Spinner1 . SelectionIndex = 5
  then set Image2 . Picture to "grape.jpg"
  else set Image2 . Picture to "tomato.jpg"

when Spinner1 . AfterSelecting
selection
do
  set Label1 . Text to get selection
  if Spinner1 . SelectionIndex = 1
  then set Image2 . Picture to "pineapple.jpg"
  else if Spinner1 . SelectionIndex = 2
  then set Image2 . Picture to "apple.jpg"
  else if Spinner1 . SelectionIndex = 3
  then set Image2 . Picture to "banana.jpg"
  else if Spinner1 . SelectionIndex = 4
  then set Image2 . Picture to "strawberry.jpg"
  else if Spinner1 . SelectionIndex = 5
  then set Image2 . Picture to "grape.jpg"
  else set Image2 . Picture to "tomato.jpg"

when Screen1 . Initialize
do
  set Spinner1 . ElementsFromString to "鳳梨,蘋果,香蕉,草莓,葡萄,番茄"
  set Spinner1 . Prompt to "選擇您喜歡的水果"
```

## Spinner 下拉式選單

Spinner 元件會以一個快顯示窗來顯示清單元素。這些元素可在 Designer 或 Blocks 頁面中設定都可以，是透過將 ElementsFromString 屬性欄位設定為一個由逗號隔開的字串(例如：aaa, bbb, ccc 這樣的格式)；或是在 Blocks 頁面去指定 Elements。

屬性

### Height

元件高度 (y軸像素)。

```
Spinner1 . Height
set Spinner1 . Height to
```

### Prompt

設定跳出視窗的 Title 文字內容。

```
Spinner1 . Prompt
set Spinner1 . Prompt to
```

### Selection

回傳spinner被點選的項目。

```
Spinner1 . Selection
set Spinner1 . Selection to
```

### SelectionIndex

使用者所選擇項目的索引號碼，由1開始。如果未選擇任何項目，則本值為 0。

```
Spinner1 . SelectionIndex
set Spinner1 . SelectionIndex to
```

```
set Spinner1 . Width to
```

事件

### AfterSelecting(text selection)

當使用者從下拉清單中選擇某個項目之後，自動呼叫本事件。

```
when Spinner1 . AfterSelecting
selection
do
```

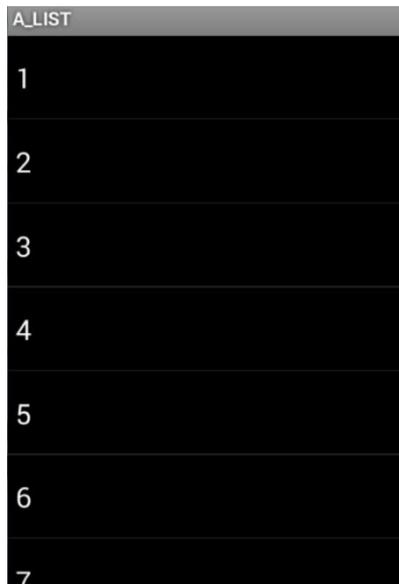
方法

### DisplayDropdown()

顯示下拉式選單以供使用者選擇，這和使用者手動點選 spinner 的動作是一樣的。

```
call Spinner1 . DisplayDropdown
```

## 範例 21:Listpicker 練習



```
when ListPicker1 .BeforePicking
do
  initialize local number to create empty list
  in for each i from 1 to 49 by 1
  do
    add items to list list get number
    item get i
  set ListPicker1 .Elements to get number

when ListPicker1 .AfterPicking
do
  set Label1 .Text to ListPicker1 .Selection
```

# App inventor 2 範例

## ListPicker 清單選取器

component ListPicker1

使用者可點選ListPicker元件來選擇其中的某個項目，資料型態為字串陣列。

當使用者點選ListPicker元件時，它會顯示一串項目讓使用者來選取。ListPicker元件的項目可在Designer或Block Editor中設定ElementsFromString屬性，並以逗號分隔並排(例如, choice 1,choice 2, choice)。或在Blocks Editor中將ListPicker元件的屬性指定為某個清單內容。

其他屬性，包括文字對齊和背景顏色皆會影響ListPicker元件的外觀，我們也可設定其是否可以被點選 (Enabled)。

### 屬性

#### Selection

選擇清單元素。

ListPicker1.Selection : 取得 ListPicker 的選擇清單元素

Set ListPicker1.Selection : 設定 ListPicker 的選擇清單元素



#### Width

元件寬度 (x軸像素)。

ListPicker1.Width : 取得 ListPicker 現在寬度(integer)

Set ListPicker1.Width : 設定 ListPicker 寬度



#### Text

設定顯示文字。

ListPicker1.Text : 取得 ListPicker 的文字內容。

Set ListPicker1.Text : 設定 ListPicker 的文字內容。



#### TextAlignment

文字對齊方式(左、中、右)。

#### TextColor

設定文字顏色。

Set ListPicker1.TextColor : 設定 ListPicker 的文字顏色。

## 事件

### AfterPicking

When ListPicker1.AfterPicking : 使用者點選ListPicker中某項目完成後呼叫本事件。



### BeforePicking

When ListPicker1.BeforePicking : 使用者點選ListPicker，但還沒點選某項目時呼叫本事件。

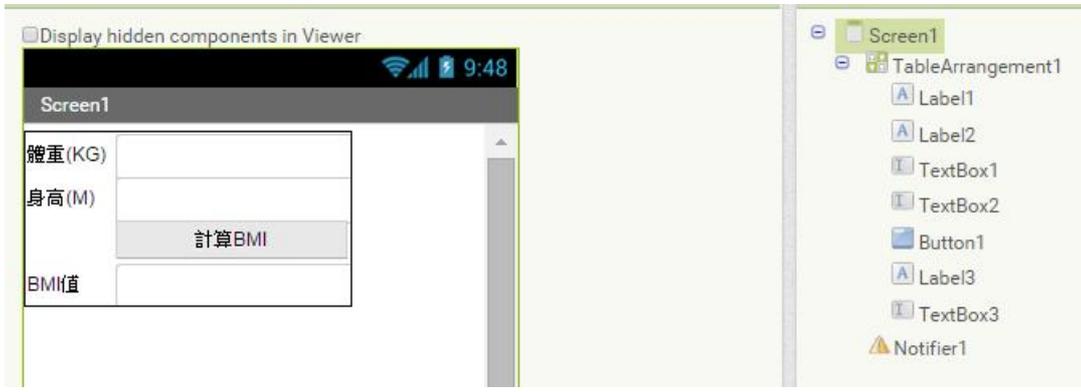


### GotFocus

當指頭移到ListPicker之上，代表現在可以點選本元件時呼叫本事件。



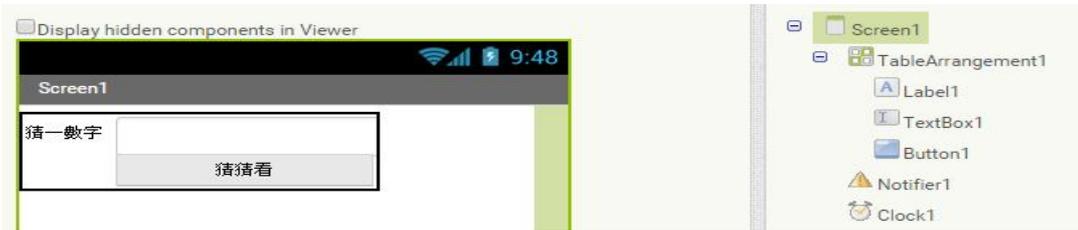
## 範例 22:自訂函式 BMI 練習



```
to comp_BMI w h
  result ← (get w) / (get h) × (get h)
end

when Button1.Click
  do
    initialize local name to
    in initialize local BMI to call comp_BMI
      w ← TextBox1.Text
      h ← TextBox2.Text
    in set TextBox3.Text to get BMI
      if get BMI < 18
        then call Notifier1.ShowAlert notice "體重過輕"
      else if get BMI < 24
        then call Notifier1.ShowAlert notice "體重正常"
      else if get BMI < 27
        then call Notifier1.ShowAlert notice "稍微過重"
      else if get BMI < 30
        then call Notifier1.ShowAlert notice "輕度肥胖"
      else call Notifier1.ShowAlert notice "肥胖"
    end
  end
end
```

## 範例 24: 自訂函式猜數字練習



```
initialize global target to 0

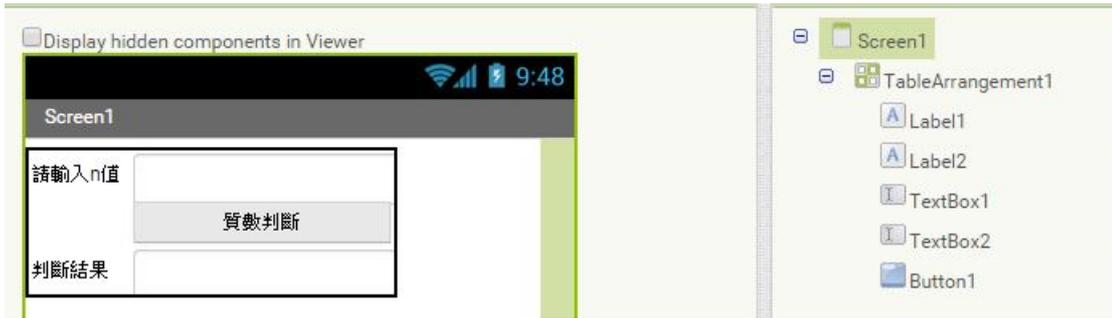
when Screen1.Initialize
do random set seed to call Clock1.Second
instant call Clock1.Now

when Button1.Click
do set global target to random integer from 1 to 100
call compare
```

```
to compare
do if TextBox1.Text > get global target
then call Notifier1.ShowTextDialog
message "猜測結果"
title "猜小一點"
cancelable false
else if TextBox1.Text < get global target
then call Notifier1.ShowTextDialog
message "猜測結果"
title "猜大一點"
cancelable false
else call Notifier1.ShowDialog
message "猜測結果"
title "猜中了"
buttonText "確定"

when Notifier1.AfterTextInput
response
do set TextBox1.Text to get response
call compare
```

## 範例 25: 自訂函式求質數練習



```
initialize global flag to true
when Button1.Click
do
  call procedure n
  if (get global flag == true)
  then
    set TextBox2.Text to join(TextBox1.Text, "是質數")
  else
    set TextBox2.Text to join(TextBox1.Text, "不是質數")

to procedure n
do
  set global flag to true
  initialize local i to 2
  in while test (get i < get n and get global flag == true)
  do
    if (modulo of get n ÷ get i == 0)
    then
      set global flag to false
    set i to get i + 1
```