

## This is Part 1 of a 4 Part Series

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## What is a Button?

A button is a control that can be mouseclicked by the user. Like other GUI controls, buttons must be defined before the window is opened. (For a discussion of locating the button, read [John Davidson's description of UL, UR, LL and LR](#).) Part of the button definition includes the assignment of action to transpire when the button is clicked. The helpfile refers to this as the returnVar.

From the helpfile:

```
BUTTON #handle.ext, "label", returnVar, corner, x, y {, width, height}
```

The returnVar can be assigned as either a sub or a branch event. When a branch event is used, that branch must be enclosed in brackets. This tutorial uses the branch event form.

This demo offers the user 12 options:

Draw a Sun - Erase the Sun

Draw a Cloud - Erase the Cloud

Draw a Yellow Flower - Erase the Yellow Flower

Draw a Pink Flower - Erase the Pink Flower

Draw a Ladybug - Erase the Ladybug

Draw a Caterpillar - Erase the Caterpillar

Note that the 'erasure' is accomplished by simply drawing a solid box over the image.

There are no external image files required to be loaded. The buttons are nothing fancy, just click-it and do-it.

```
'Demo Illustrating Buttons
```

```
  Nomainwin
```

```
  WindowWidth = 800
```

```
  WindowHeight = 600
```

```
  UpperLeftX = Int((DisplayWidth-WindowWidth)/2)
```

```
  UpperLeftY = Int((DisplayHeight-WindowHeight)/2)
```

```
  Button #main.bbtn1a, "Draw Sun", [drawSun], UL, 20, 510, 100, 24
```

```
    Button #main.bbtn1b, "Erase Sun", [eraseSun], UL, 20, 540, 100, 24
    Button #main.bbtn2a, "Draw Cloud", [drawCloud], UL, 140, 510,
100, 24
    Button #main.bbtn2b, "Erase Cloud", [eraseCloud], UL, 140, 540,
100, 24
    Button #main.bbtn3a, "Draw Yellow Flower", [
drawYellowFlower], UL, 290, 510, 100, 24
    Button #main.bbtn3b, "Erase Yellow Flower", [
eraseYellowFlower], UL, 290, 540, 100, 24
    Button #main.bbtn4a, "Draw Pink Flower", [
drawPinkFlower], UL, 410, 510, 100, 24
    Button #main.bbtn4b, "Erase Pink Flower", [
erasePinkFlower], UL, 410, 540, 100, 24
    Button #main.bbtn5a, "Draw Ladybug", [drawLadybug], UL, 560,
510, 100, 24
    Button #main.bbtn5b, "Erase Ladybug", [eraseLadybug], UL, 560,
540, 100, 24
    Button #main.bbtn6a, "Draw Caterpillar", [
drawCaterpillar], UL, 680, 510, 100, 24
    Button #main.bbtn6b, "Erase Caterpillar", [
eraseCaterpillar], UL, 680, 540, 100, 24
    Graphicbox #main.gb, 1, 1, 791, 500

    Open "The Buttons" for Window as #main
    #main, "Trapclose [endDemo]"
    #main.gb, "Down"

'Draw the Blue Sky
    #main.gb, "Color Darkblue; Backcolor Darkblue; Place 0 0"
    #main.gb, "Boxfilled 790 250"

'Draw the Green Ground
    #main.gb, "Color Darkgreen; Backcolor Darkgreen; Place 0 250"
    #main.gb, "Boxfilled 790 500"
    Wait

[endDemo]
    Close #main
    End

[drawSun]
    #main.gb, "Color Yellow; Backcolor Yellow"
    For angle = 10 to 360 Step 10
        #main.gb, "Place 200 125; North; Turn ";angle
        #main.gb, "Go ";Int(Rnd(1) * 20) + 60
    Next angle
```

```
#main.gb, "Place 200 125; Circlefilled 50"  
Wait
```

```
[eraseSun]  
#main.gb, "Color Darkblue; Backcolor Darkblue"  
#main.gb, "Place 40 0; Boxfilled 300 210"  
Wait
```

```
[drawCloud]  
#main.gb, "Color White; Backcolor White"  
For i = 1 to 10  
    x = Int(Rnd(1)*100) + 600  
    y = Int(Rnd(1)*100) + 80  
    #main.gb, "Place ";x;" ";y  
    width = Int(Rnd(1)*10) * 5 + 50  
    height = Int(Rnd(1)*10) * 2 + 20  
    #main.gb, "Ellipsefilled ";width;" ";height  
Next i  
Wait
```

```
[eraseCloud]  
#main.gb, "Color Darkblue; Backcolor Darkblue"  
#main.gb, "Place 550 50; Boxfilled 750 200"  
Wait
```

```
[drawYellowFlower]  
#main.gb, "Color Green; Backcolor Green"  
For x = 295 to 305  
    #main.gb, "Line ";x;" 315 ";x;" 375"  
Next x  
#main.gb, "Color Yellow; Backcolor Yellow"  
For angle = 0 to 360 Step 60  
    #main.gb, "Place 300 300; North; Up; Turn ";angle  
    #main.gb, "Go 20; Down; Circlefilled 15"  
Next angle  
#main.gb, "Color Pink; Backcolor Pink"  
#main.gb, "Place 300 300; Circlefilled 10"  
Wait
```

```
[eraseYellowFlower]  
#main.gb, "Color Darkgreen; Backcolor Darkgreen"  
#main.gb, "Place 265 265; Boxfilled 335 380"  
Wait
```

```
[drawPinkFlower]  
#main.gb, "Color Green"
```

```
For x = 495 to 505
    #main.gb, "Line ";x;" 315 ";x;" 375"
Next x
#main.gb, "Color Pink; Backcolor Pink"
For angle = 0 to 360 Step 60
    #main.gb, "Place 500 300; North; Up; Turn ";angle
    #main.gb, "Go 20; Down; Circlefilled 15"
Next angle
#main.gb, "Color Yellow; Backcolor Yellow"
#main.gb, "Place 500 300; Circlefilled 10"
Wait
```

[erasePinkFlower]

```
#main.gb, "Color Darkgreen; Backcolor Darkgreen"
#main.gb, "Place 465 265; Boxfilled 535 380"
Wait
```

[drawLadybug]

```
#main.gb, "Color Red; Backcolor Red"
#main.gb, "Place 100 400"
#main.gb, "Ellipsefilled 80 50"
#main.gb, "Color Black; Backcolor Black"
#main.gb, "Place 80 400; Circlefilled 5"
#main.gb, "Place 90 390; Circlefilled 5"
#main.gb, "Place 90 410; Circlefilled 5"
#main.gb, "Place 110 385; Circlefilled 5"
#main.gb, "Place 105 400; Circlefilled 5"
#main.gb, "Place 110 415; Circlefilled 5"
#main.gb, "Place 125 392; Circlefilled 5"
#main.gb, "Place 125 408; Circlefilled 5"
#main.gb, "Line 136 396 150 380; Circlefilled 3"
#main.gb, "Line 136 404 150 420; Circlefilled 3"
Wait
```

[eraseLadybug]

```
#main.gb, "Color Darkgreen; Backcolor Darkgreen"
#main.gb, "Place 50 375; Boxfilled 155 425"
Wait
```

[drawCaterpillar]

```
#main.gb, "Color Darkcyan; Backcolor Darkcyan"
x = 620
For i = 1 to 4
    y = 400 - 10 * (i/2 = Int(i/2))
    #main.gb, "Place ";x;" ";y
    #main.gb, "Ellipsefilled 50 20"
```

```
        x = x + 30
Next i
#main.gb, "Color Black; Backcolor Black"
#main.gb, "Place 616 400; Circlefilled 4"
#main.gb, "Place 624 400; Circlefilled 4"
Wait

[eraseCaterpillar]
#main.gb, "Color Darkgreen; Backcolor Darkgreen"
#main.gb, "Place 590 375; Boxfilled 750 425"
Wait
```

Wouldn't you like to just 'toggle' the image on and off without having to use separate buttons? Well, actually, you can. Rather than using a button, use a checkbox.

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