DIAView

Window Program&Event Program

Ruby
2020/05/01

Outline

- The concepts of event
- Left button event
- Right button event
- Mouse event
- Window operation event
- Value input event
- Sliding input event
- Rotation input event
- Window program event
- Control event
- Keyboard

Purpose

In this chapter, you will learn …..

… more about event

… more about ten event types of DIAView

Outline

- The concepts of event
- Left button event
- Right button event
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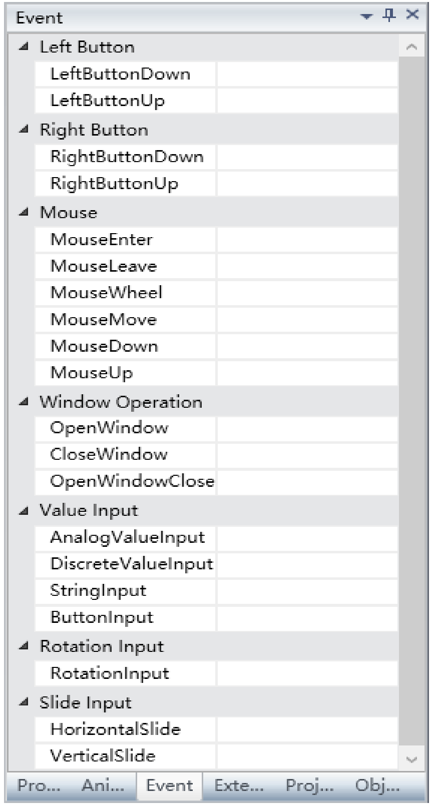
The concepts of event

Events are operations that can be recognized and responded by graphical objects, and are divided into system events and user events. The events in the DIAView are generally user events, that is, the user's operations on various graphical objects on the window, and then drive the graphical controls to perform a certain function.



Outline

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- **Left button event**
- Right button event
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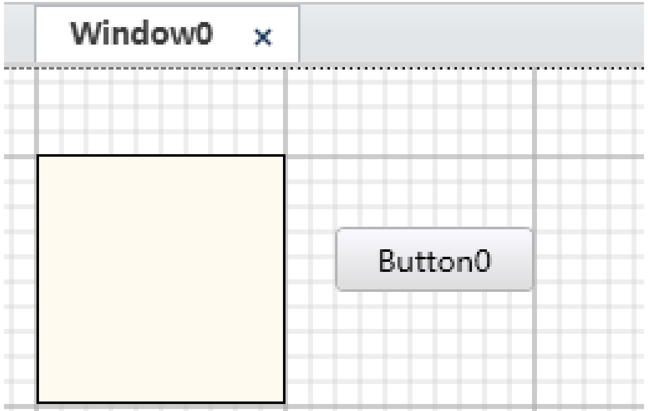
- Keyboard

Left Button Event—Left Button Down

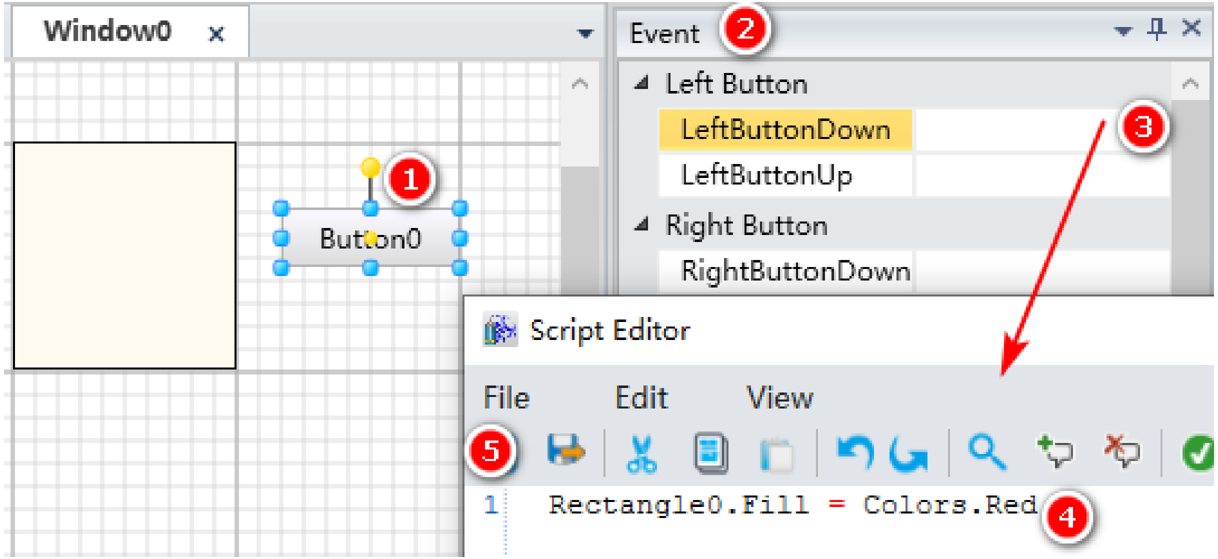
- **Left Button Down event** example:

Create a red rectangle with left button down event
(1)Create a Rectangle0 and a Button0 in the Window0



Left Button Event—Left Button Down

(2)Configure the left button down event of the Button0

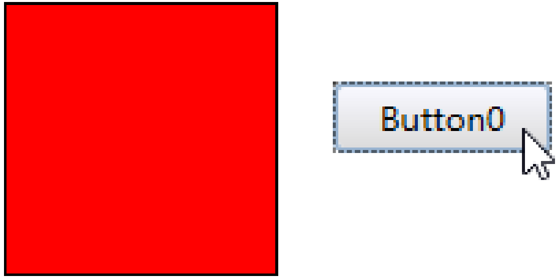


```
Rectangle0.Fill = Colors.Red
```

※Refer to the section “10.2 Left button event” in user manual.

Left Button Event—Left Button Down

(3)Run the Window0, left click on "Button0", then the Rectangle0 turns red

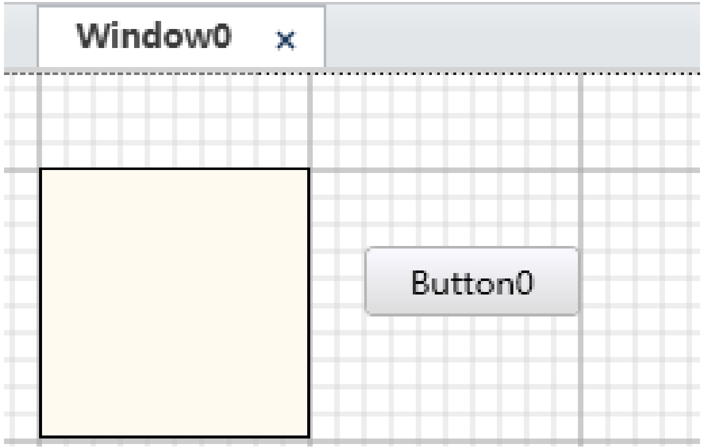


Left Button Event—Left Button Up

- **Left Button Up event** example:

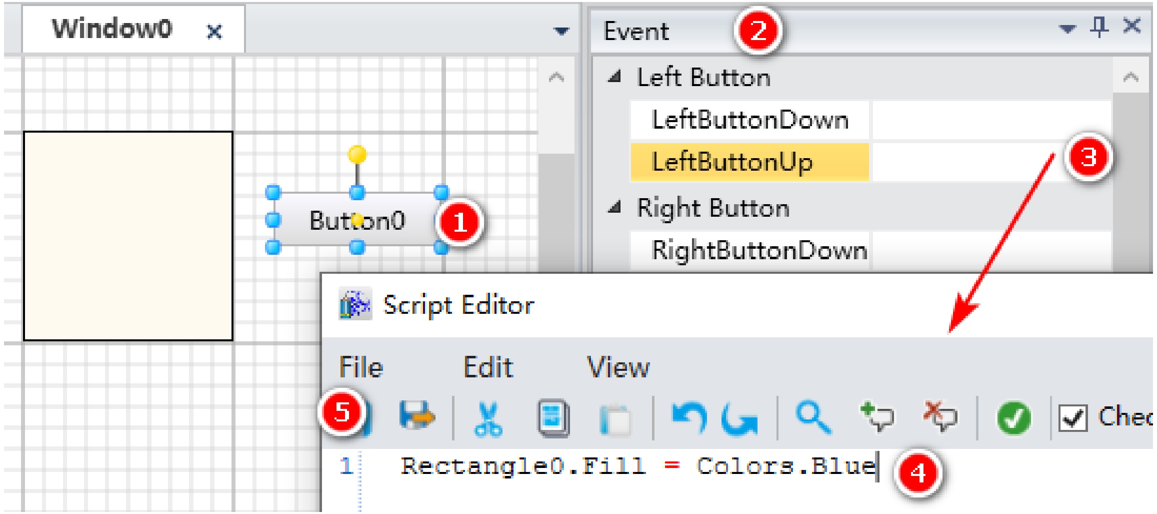
Create a blue rectangle with left button up event：

(1)Create a Rectangle0 and a Button0 in the Window0



Left Button Event—Left Button Up

(2)Configure the left button up event of the Button0

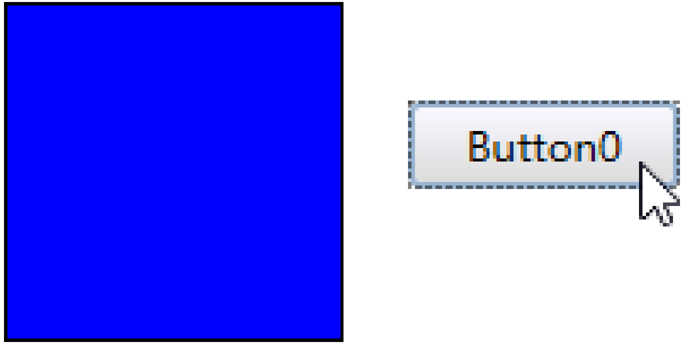


```
Rectangle0.Fill = Colors.Blue
```

※Refer to the section “10.2 Left button event” in user manual.

Left Button Event—Left Button Up

(3)Run the Window0, left click on “Button0”, when the mouse is pressed, the colour of the Rectangle0 does not change, then release the mouse, the colour of the Rectangle0 turns blue



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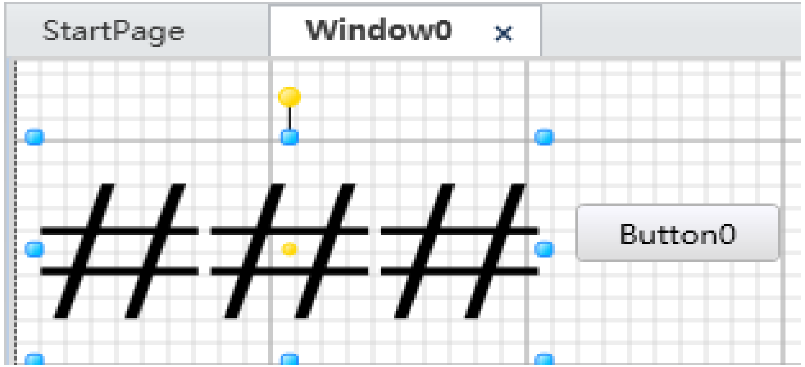
Right Button Event—Right Button Down

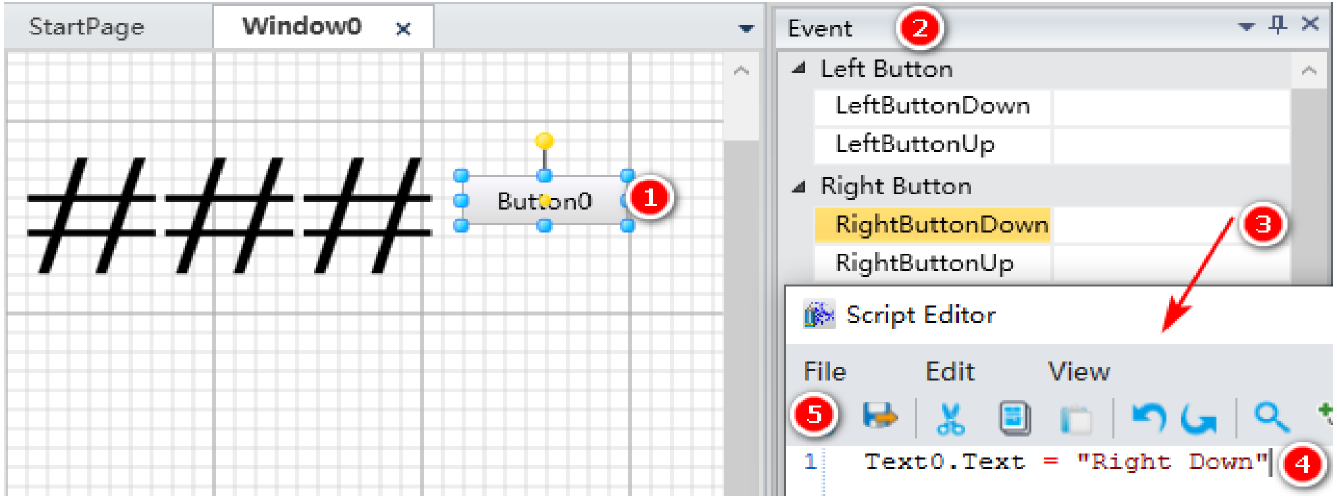
- **Right Button Down event** example:

Create a text and set its content with right button down event：
(1)Create a Text0 and a Button0 in the Window0



Right Button Event—Right Button Down

(2)Configure the right button down event of the Button0

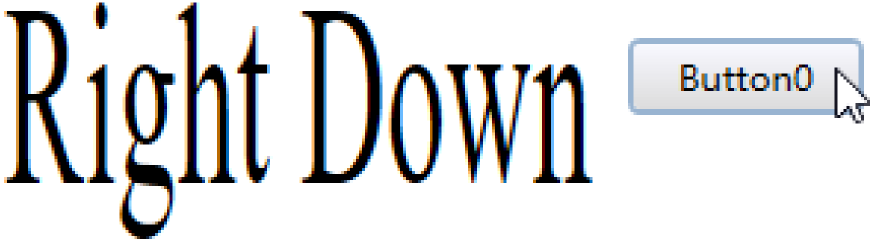


```
Text0.Text = "Right Down"
```

※Refer to the section “10.3 Right button event” in user manual.

Right Button Event—Right Button Down

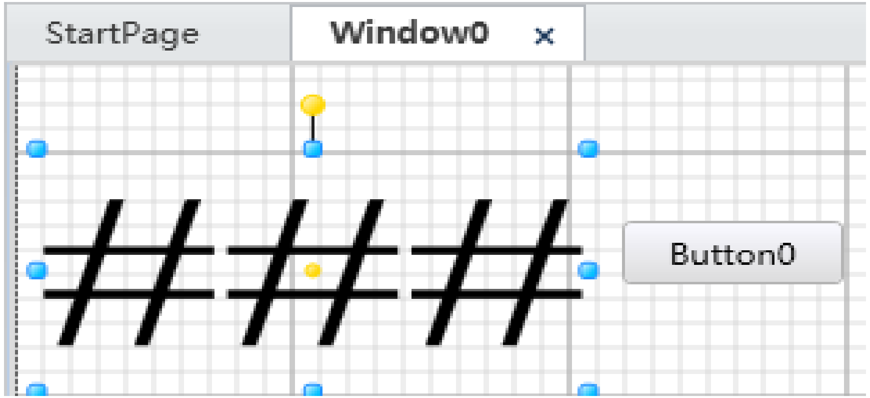
(3)Run the Window0, right click on “Button0”, then the content of Text0 becomes “Right Down”



Right Button Event—Right Button Up

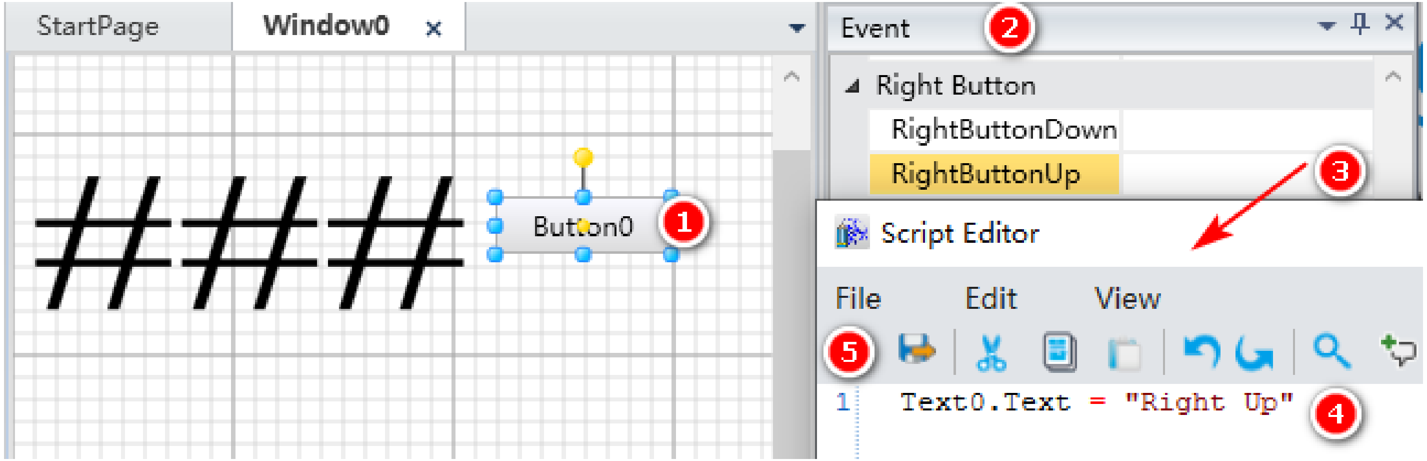
- **Right Button Up event** example:

Create a text and set its content with right button up event：
(1)Create a Text0 and a Button0 in the Window0



Right Button Event—Right Button Up

(2)Configure the right button up event of the Button0

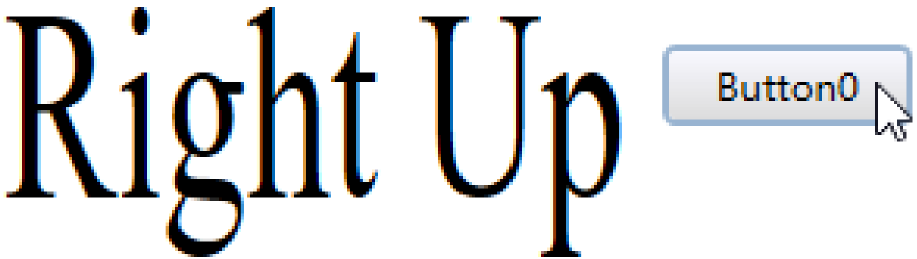


```
Text0.Text = "Right Up"
```

※Refer to the section “10.3 Right button event” in user manual.

Right Button Event—Right Button Up

(3)Run the Window0, right click on “Button0”, when the mouse is pressed, the content of the Text0 does not change, then release the mouse, the content of the Text0 becomes “Right Up”



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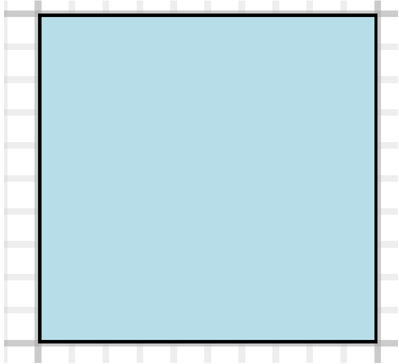
Mouse Event—Mouse Enter

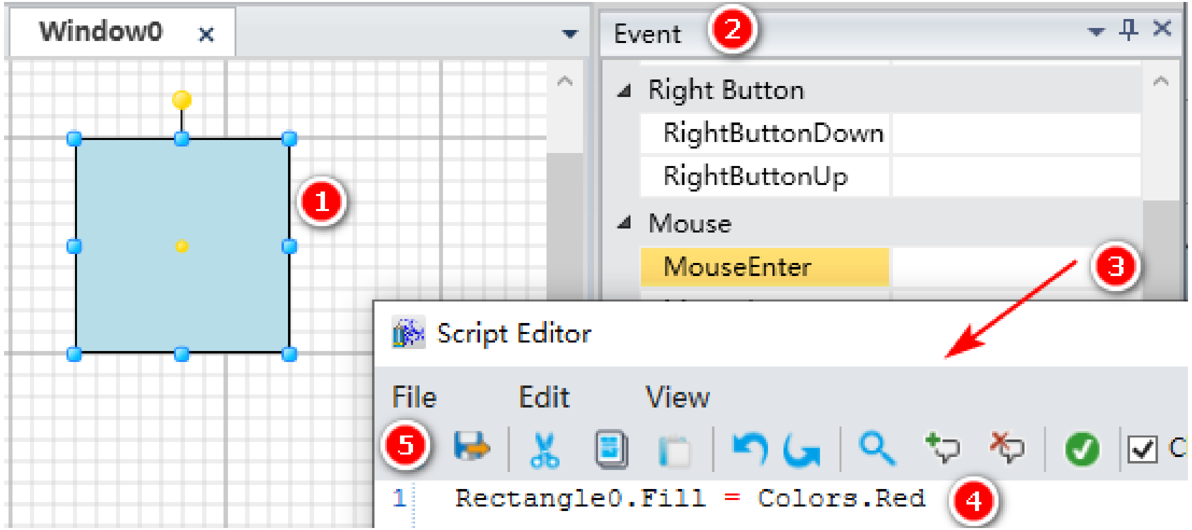
- **Mouse Enter event** example:

Create a rectangle and set its color with mouse enter event：
(1)Create a Rectangle0 in the Window0



Mouse Event—Mouse Enter

(2)Configure mouse enter event of the Rectangle0

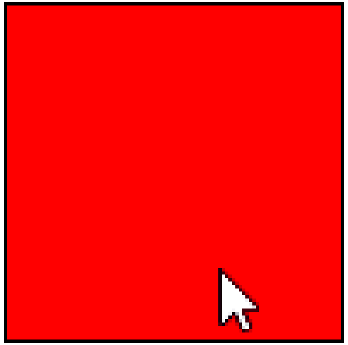


```
Rectangle0.Fill = Colors.Red
```

※Refer to the section “10.4 Mouse event” in user manual.

Mouse Event—Mouse Enter

(3)Run the Window0, move mouse, when mouse enter the Rectangle0, then the Rectangle0 turns red

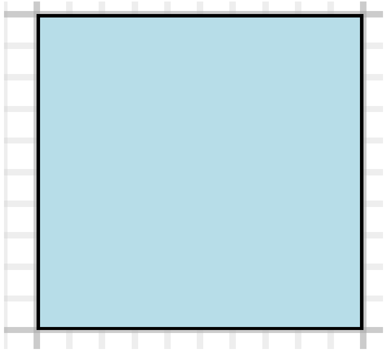


Mouse Event—Mouse Leave

- **Mouse Leave event** example:

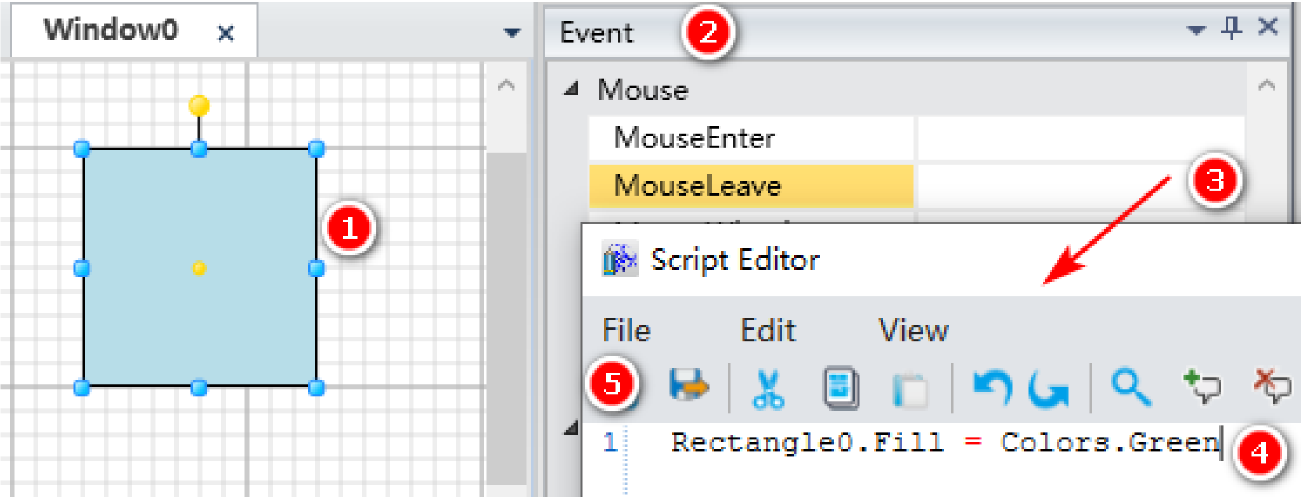
Create a rectangle and set its color with mouse leave event：

(1)Create a Rectangle0 in the Window0



Mouse Event—Mouse Leave

(2)Configure mouse leave event of the Rectangle0

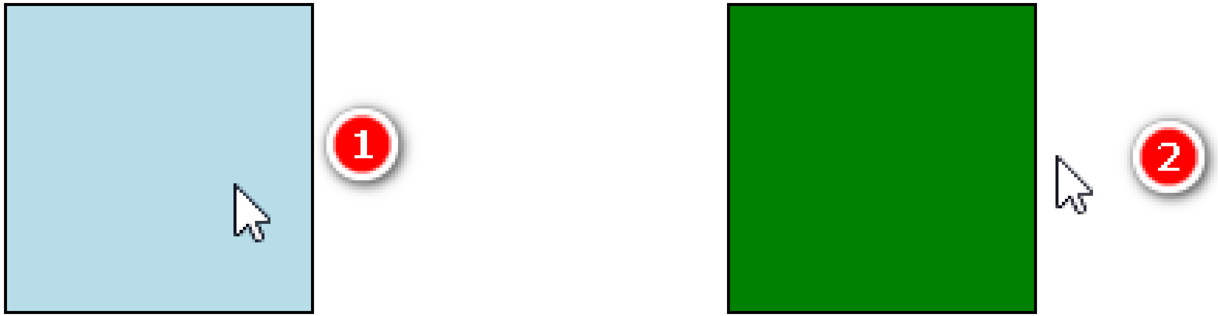


```
Rectangle0.Fill = Colors.Green
```

※Refer to the section “10.4 Mouse event” in user manual.

Mouse Event—Mouse Leave

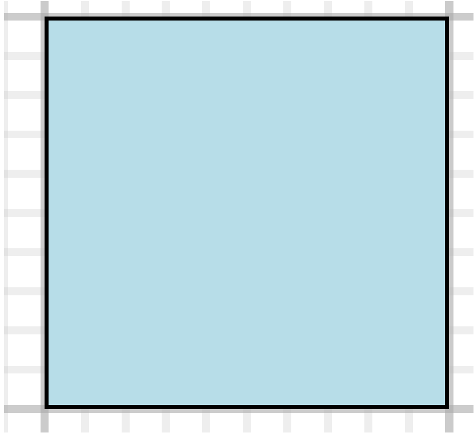
(3)Run the Window0, move mouse, when mouse enter the Rectangle0, the color of Rectangle0 does not change ; when the mouse leave then Rectangle0, the Rectangle0 turns green



Mouse Event—Mouse Wheel

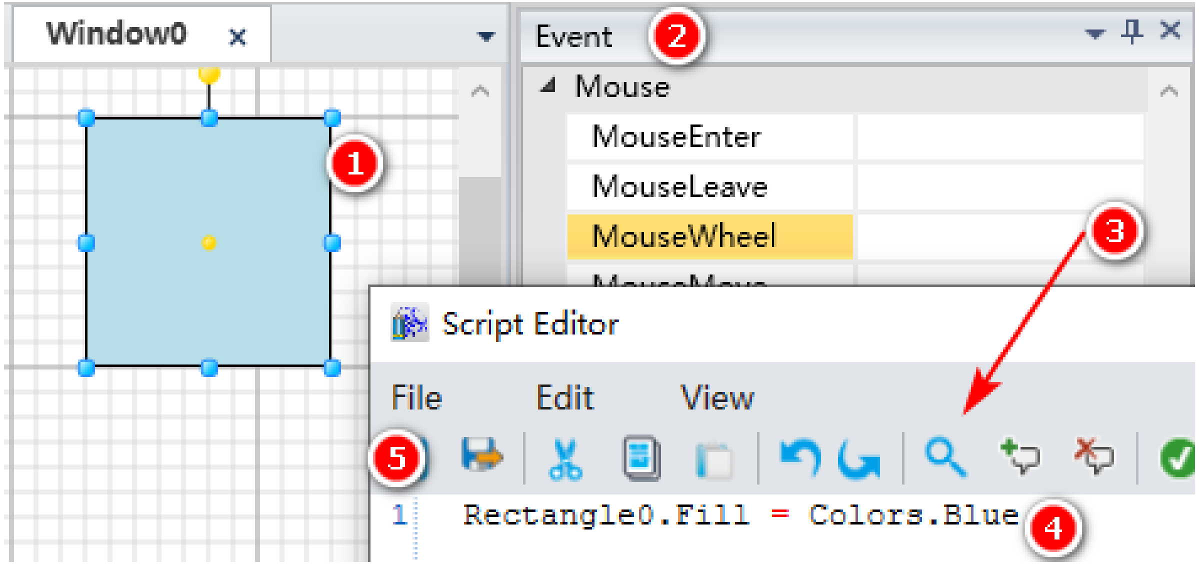
- **Mouse Wheel event** example:

Create a rectangle and set its color with mouse wheel event：
(1)Create a Rectangle0 in the Window0



Mouse Event—Mouse Wheel

(2)Configure mouse wheel event of the Rectangle0

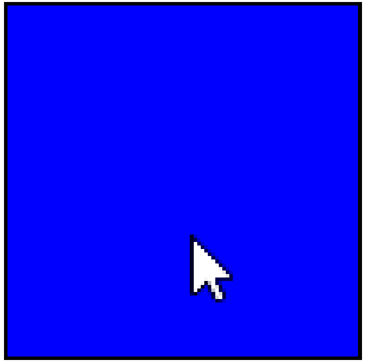


```
Rectangle0.Fill = Colors.Blue
```

※Refer to the section “10.4 Mouse event” in user manual.

Mouse Event—Mouse Wheel

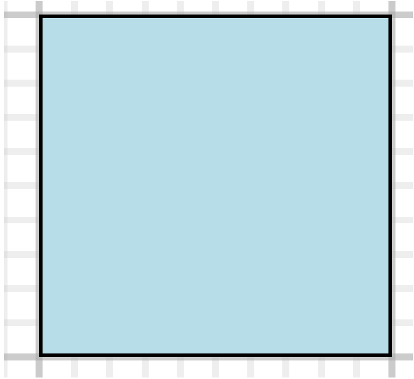
(3)Run the Window0,move mouse, when the mouse is on the Rectangle0, rolling the mouse, the Rectangle0 becomes blue



Mouse Event—Mouse Move

- **Mouse Move event** example:

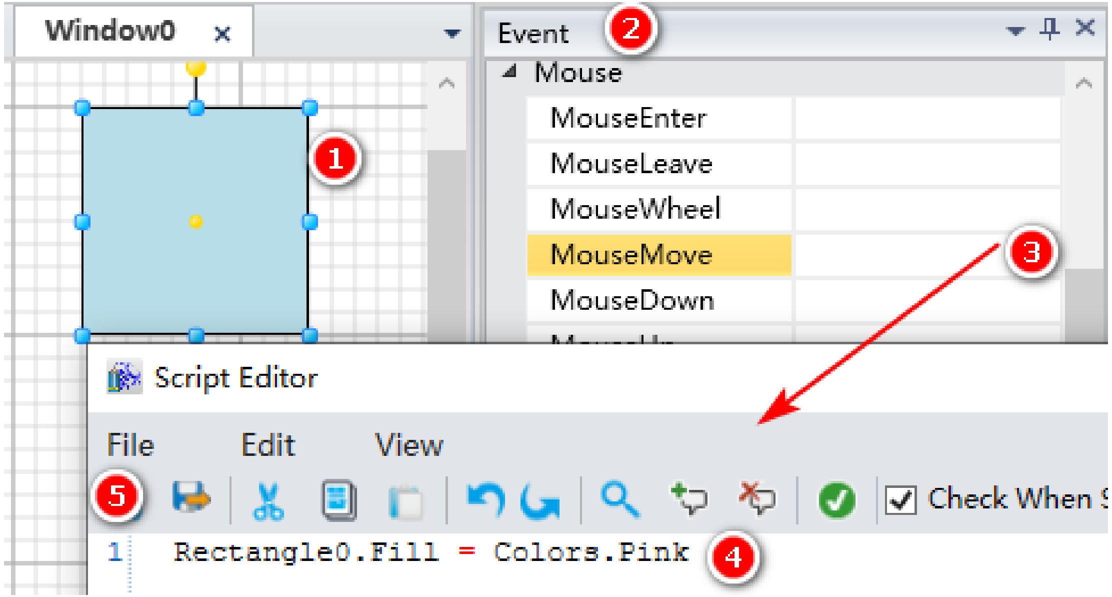
Create a rectangle and set its color with mouse move event：
(1)Create a Rectangle0 in the Window0



※Refer to the section “10.4 Mouse event” in user manual.

Mouse Event—Mouse Move

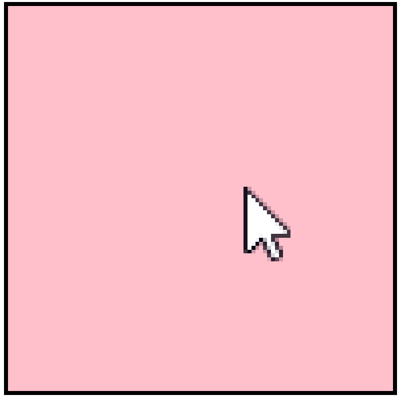
(2)Configure mouse move event of the Rectangle0



```
Rectangle0.Fill = Colors.Pink
```

Mouse Event—Mouse Move

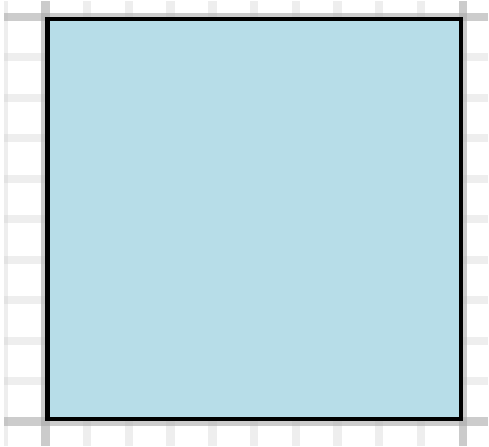
(3)Run the Window0,move mouse, when the mouse is on the Rectangle0, move the mouse, the Rectangle0 becomes pink



Mouse Event—Mouse Down

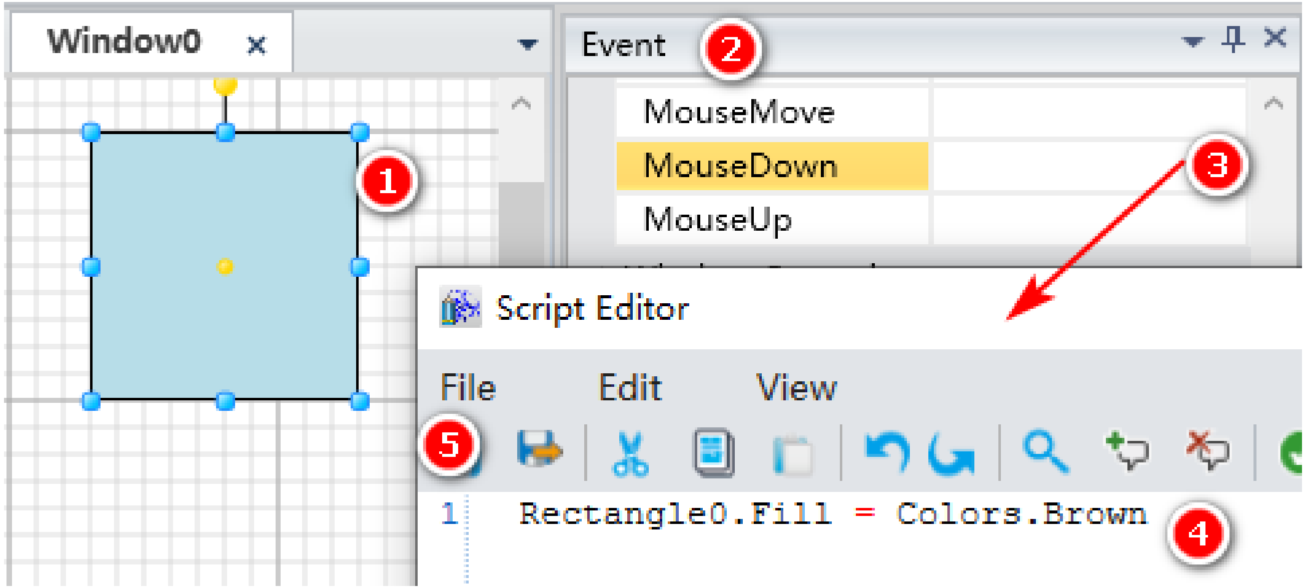
- **Mouse Down event** example:

Create a rectangle and set its color with mouse down event：
(1)Create a Rectangle0 in the Window0



Mouse Event—Mouse Down

(2)Configure mouse down event of the <u>Rectangle0</u>

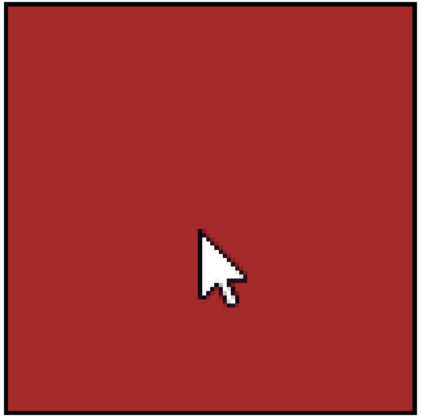


```
Rectangle0.Fill = Colors.Brown
```

※Refer to the section "10.4 Mouse event" in user manual.

Mouse Event—Mouse Down

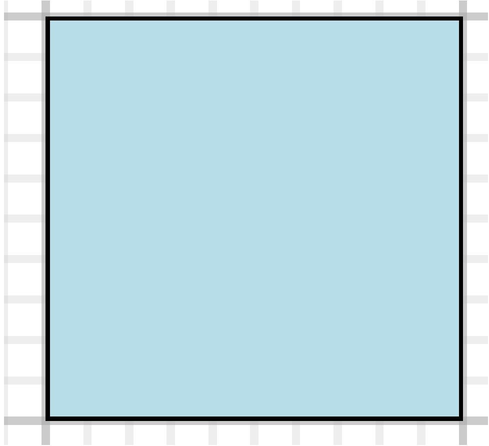
(3)Run the Window0,move mouse, when the mouse is on the Rectangle0, press the left or right mouse button, the Rectangle0 becomes brown



Mouse Event—Mouse Up

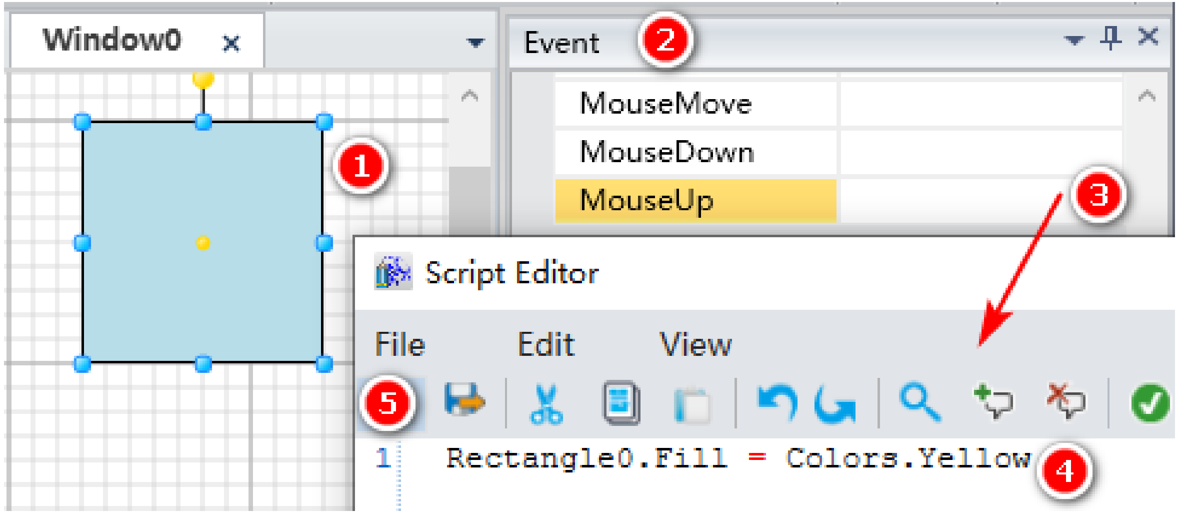
- **Mouse Up event** example:

Create a rectangle and set its color with mouse up event：
(1)Create a Rectangle0 in the Window0



Mouse Event—Mouse Up

(2)Configure mouse up of the Rectangle0

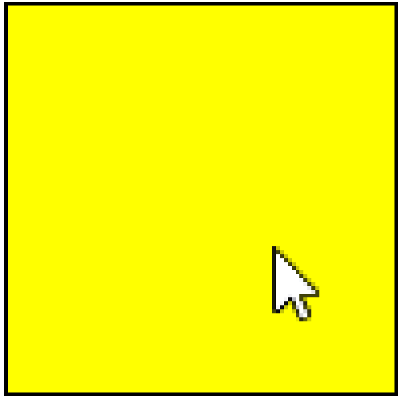


```
Rectangle0.Fill = Colors.Yellow
```

※Refer to the section “10.4 Mouse event” in user manual.

Mouse Event—Mouse Up

(3)Run the Window0,move mouse, when the mouse is on the Rectangle0, press the left or right mouse button , the colour of Rectangle0 does not change , then release the mouse, Rectangle0 becomes yellow



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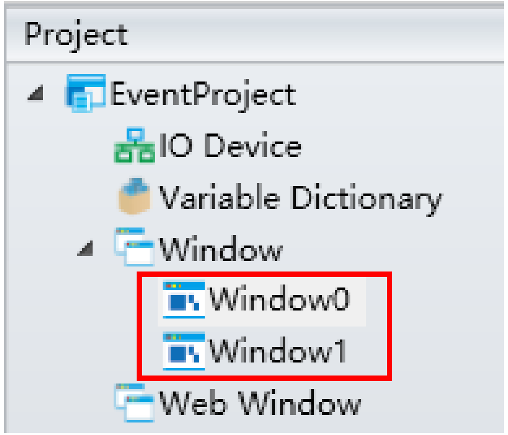
Window Operation Event—Open Window

- **Open Window event** example

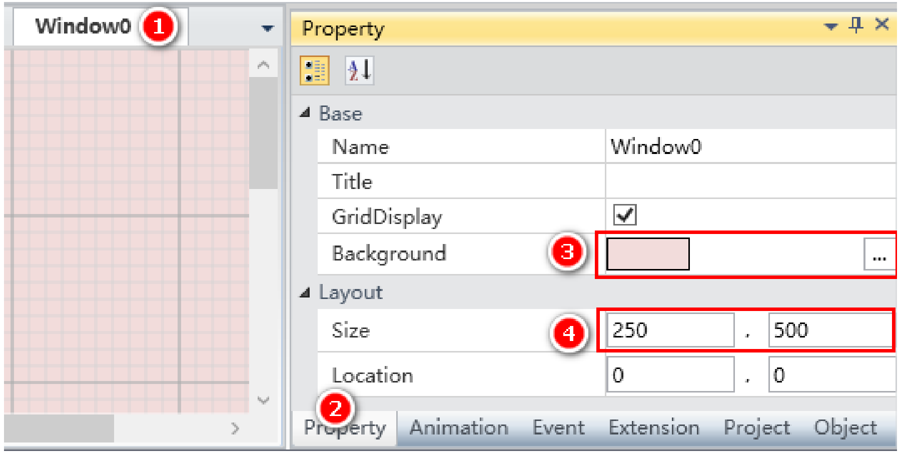
(1)Create two windows(Window0,Window1) in the project



※Refer to the section “7.2.1.1 Add window” in user manual.

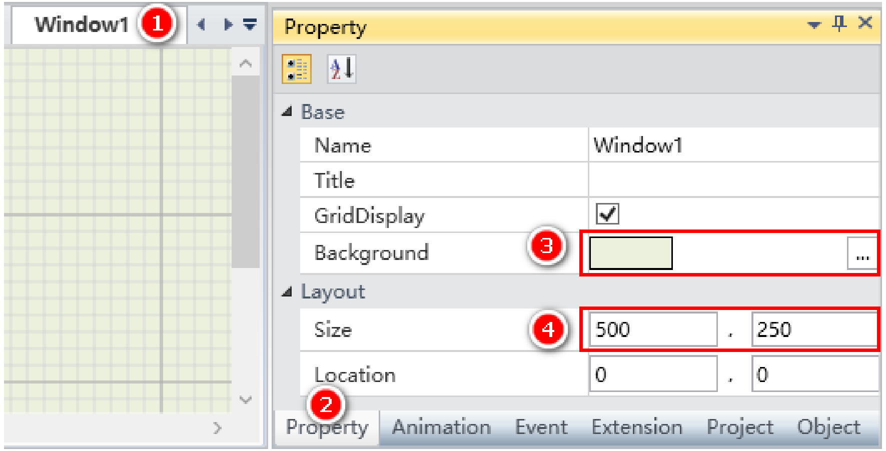
Window Operation Event—Open Window

(2)Set the properties of the two windows



Name: Window0
Title:
GridDisplay: ☑
Background: 🟥
Size: 250 , 500
Location: 0 , 0

Window0

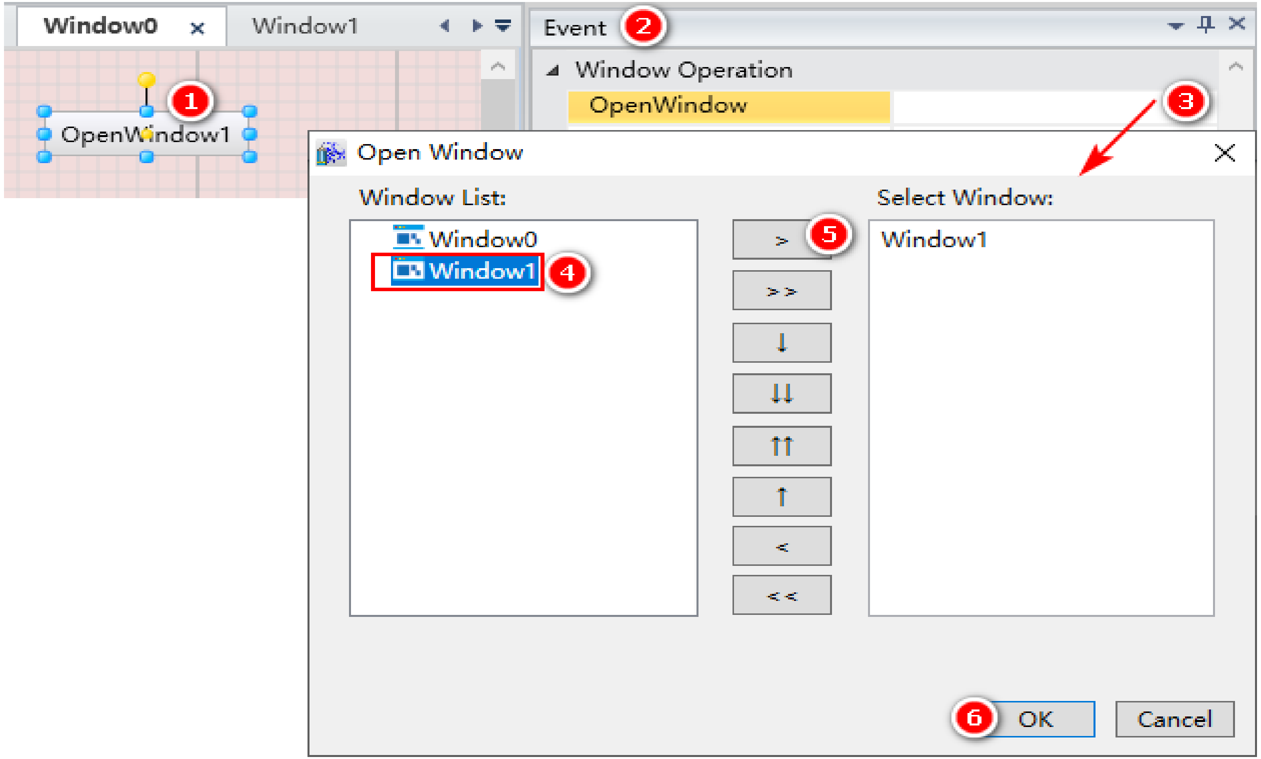


Name: Window1
Title:
GridDisplay: ☑
Background: 🟩
Size: 500 , 250
Location: 0 , 0

Window1

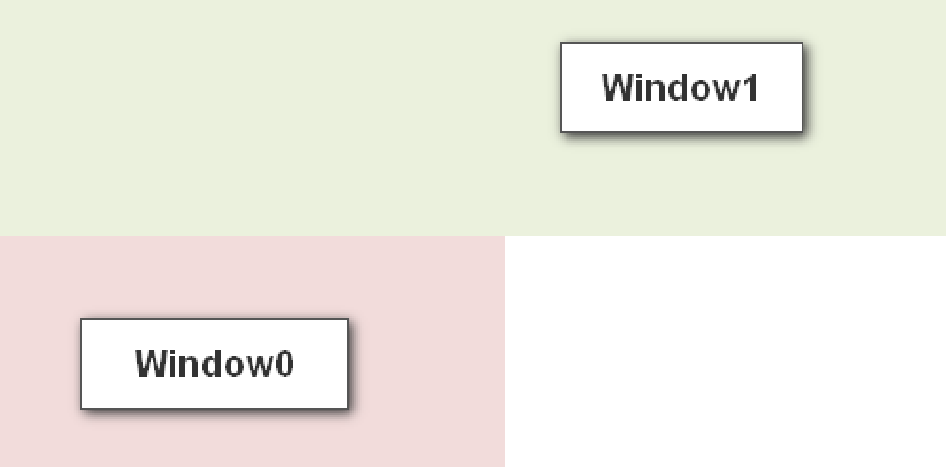
Window Operation Event—Open Window

(3)Create a button in the Window0,configure its open window event



Window Operation Event—Open Window

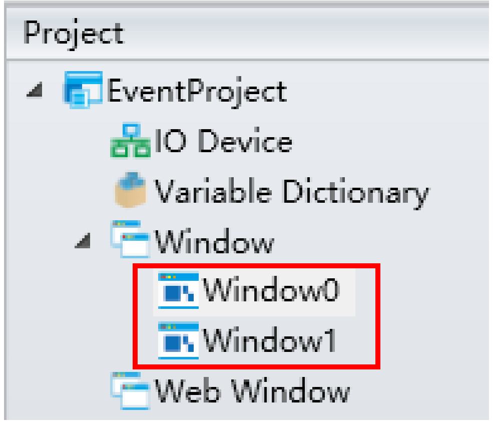
(4)Only run the Window0 default. Then click the “OpenWindow1” button, the Window1 is opened . The two windows are all running



Window Operation Event—Close Window

- **Close Window event** example

(1)Create two windows(Window0,Window1) in the project

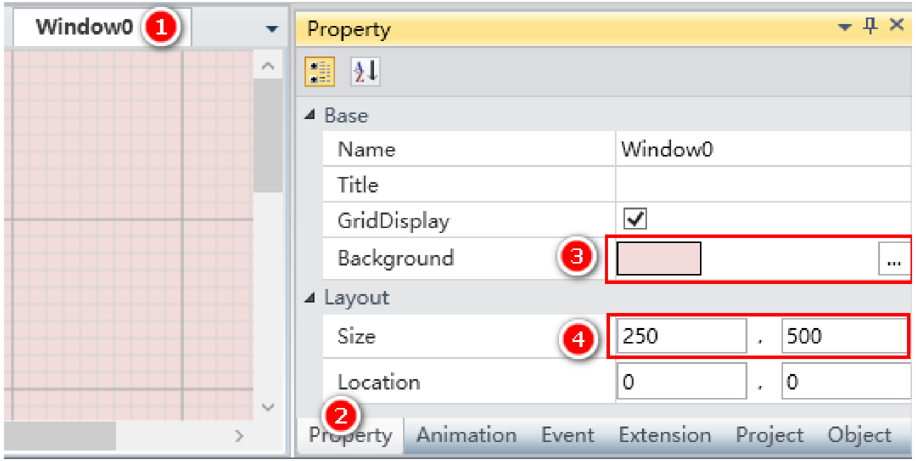
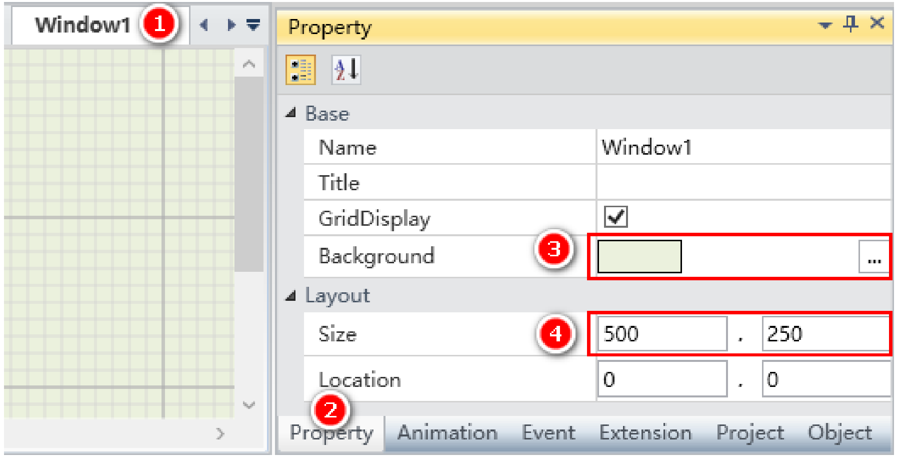


Project
EventProject
IO Device
Variable Dictionary
Window
Window0
Window1
Web Window

※Refer to the section "7.2.1.1 Add window" in user manual.

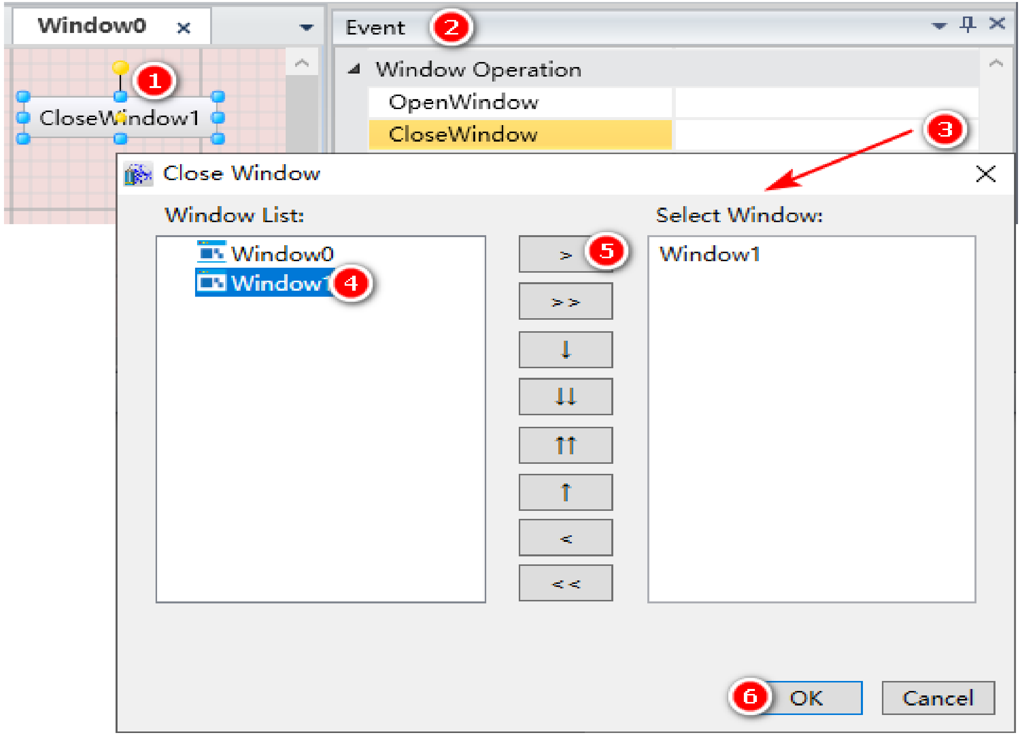
Window Operation Event—Close Window

(2)Set the properties of the two windows

 Window0 ① Property Base Name: Window0 Title: GridDisplay: ☑ Background ③ Layout Size ④: 250 , 500 Location: 0 , 0 ② Property · Animation · Event · Extension · Project · Object	 Window1 ① Property Base Name: Window1 Title: GridDisplay: ☑ Background ③ Layout Size ④: 500 , 250 Location: 0 , 0 ② Property · Animation · Event · Extension · Project · Object
Window0	Window1

Window Operation Event—Close Window

(3)Create a button in the Window0,configure its close window event

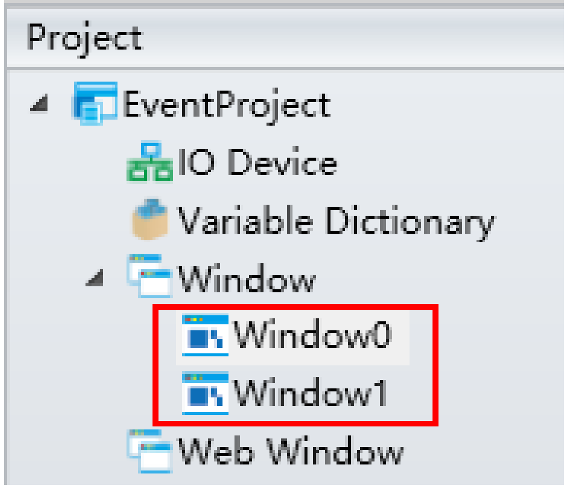


(4)Run the two windows default. Then click the “CloseWindow1” button, the Window1 is closed . Only Window0 is running

Window Operation Event—Open Window And Close Others

- **Open Window And Close Others event** example

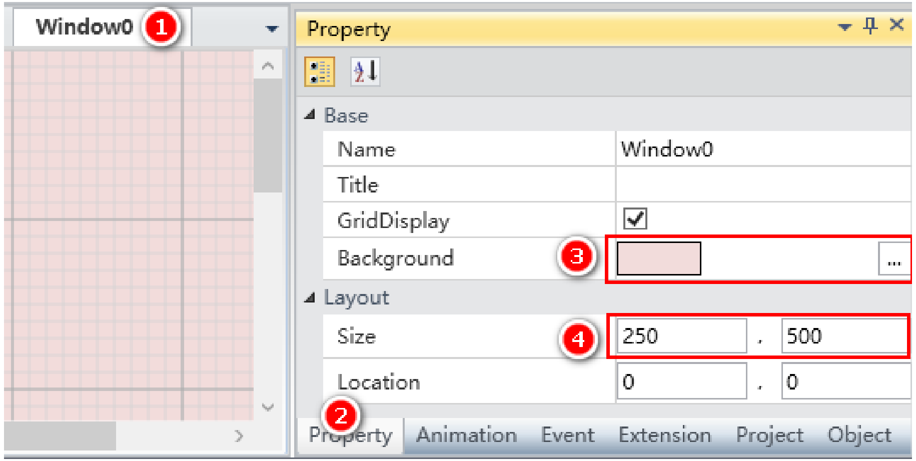
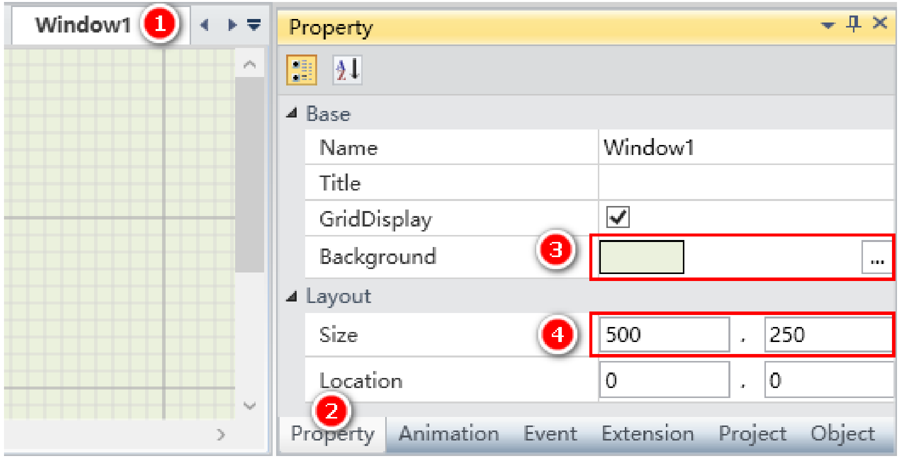
(1)Create two windows(Window0,Window1) in the project



※Refer to the section "7.2.1.1 Add window" in user manual.

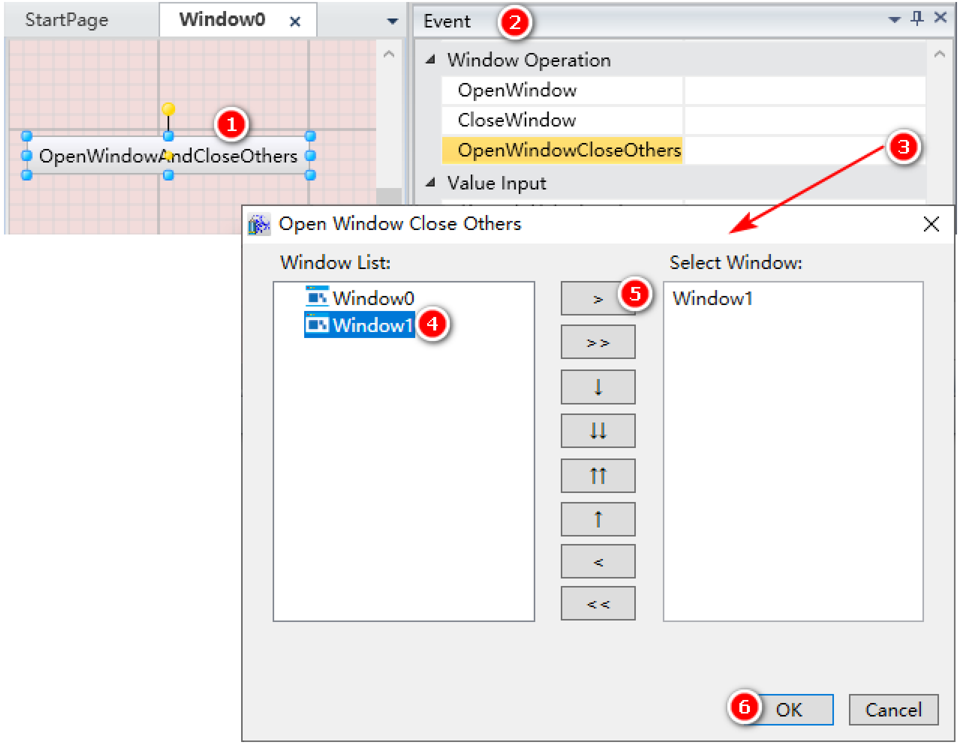
Window Operation Event—Open Window And Close Others

(2)Set the properties of the two windows

 Window0 ① Property Base Name: Window0 Title: GridDisplay: ☑ Background: ③ Layout Size: ④ 250 , 500 Location: 0 , 0 ② Property | Animation | Event | Extension | Project | Object	 Window1 ① Property Base Name: Window1 Title: GridDisplay: ☑ Background: ③ Layout Size: ④ 500 , 250 Location: 0 , 0 ② Property | Animation | Event | Extension | Project | Object
Window0	Window1

Window Operation Event—Open Window And Close Others

(3)Create a button in the Window0,configure its open window and close others event



(4)Only run the Window0 default. Then click the “OpenWindowAndCloseOthers” button, the Window1 is opened, Window0 is Closed. Only Window1 is running

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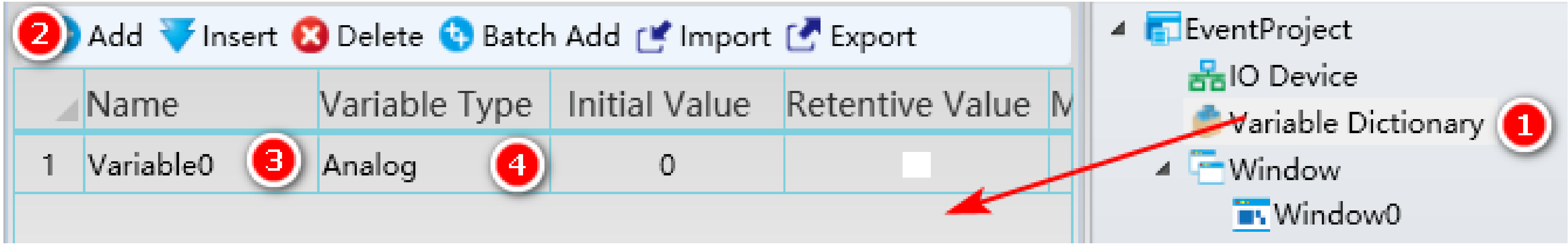
Sliding Input Event—Horizontal Sliding

- **Horizontal Sliding event** example

Create a text and move it horizontally and display the distance of moving :
(1)Create a analog variable: Variable0

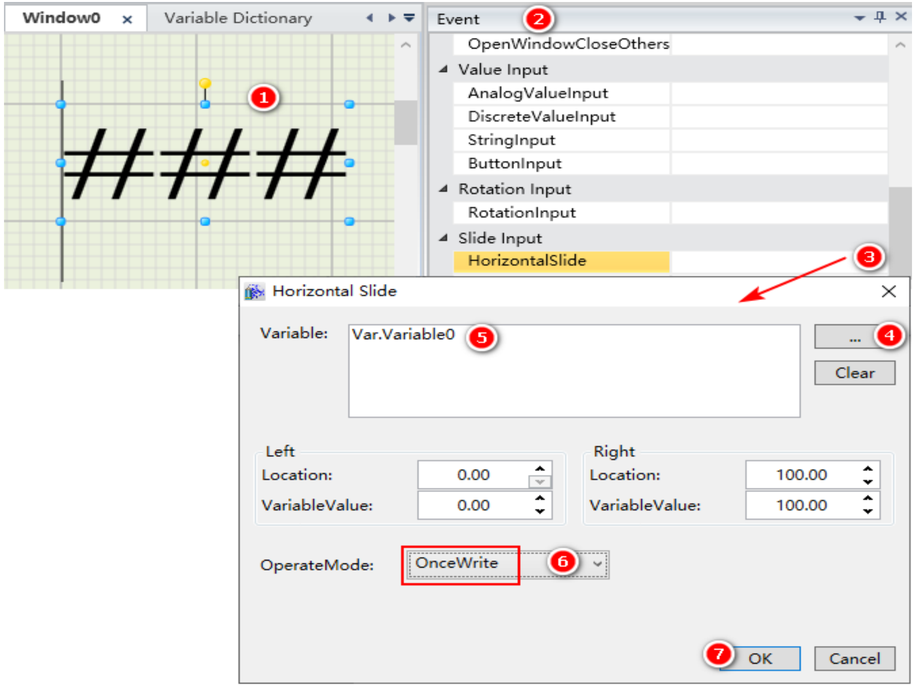


	Name	Variable Type	Initial Value	Retentive Value	M
1	Variable0	Analog	0	☐	

※Refer to the section "6.3 Variables" in user manual.

Sliding Input Event—Horizontal Sliding

(2)Create a Text0 and a Line0 in the Window0.Configure event and animation of the Text0

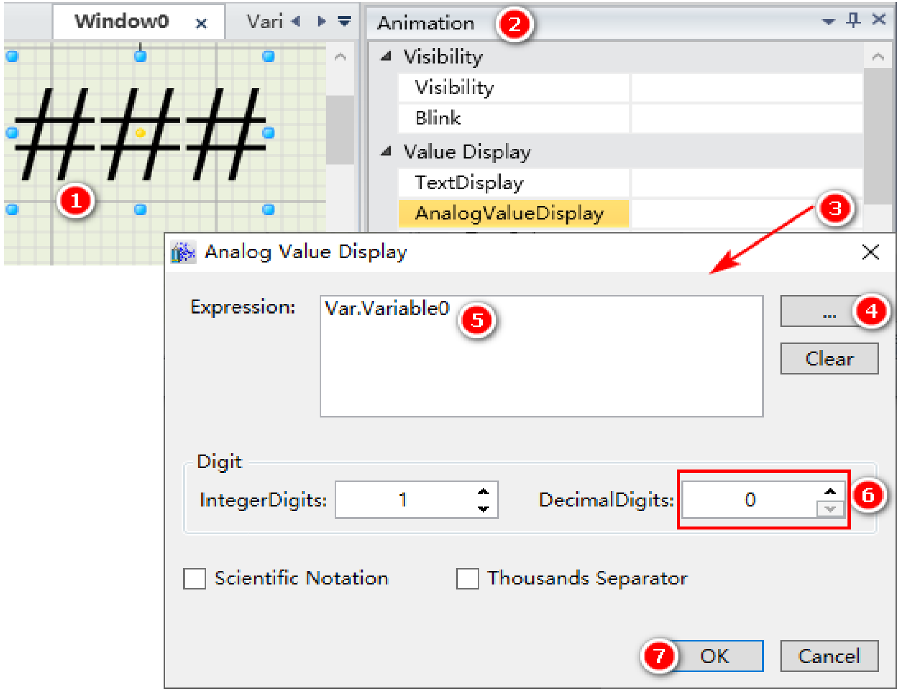


Variable: Var.Variable0

Left
Location: 0.00
VariableValue: 0.00

Right
Location: 100.00
VariableValue: 100.00

OperateMode: OnceWrite



Expression: Var.Variable0

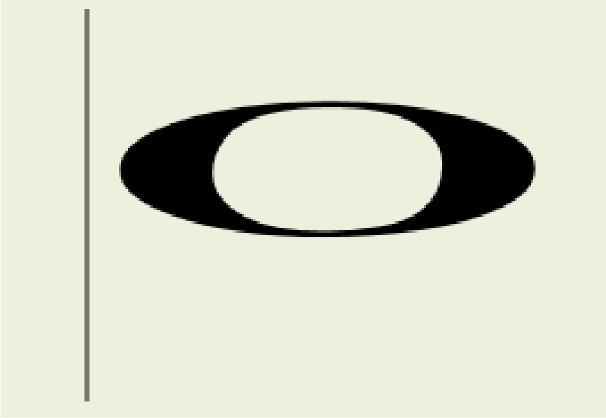
Digit
IntegerDigits: 1
DecimalDigits: 0

☐ Scientific Notation ☐ Thousands Separator

Horizontal Slide Event	Analog Value Display Animation

Sliding Input Event—Horizontal Sliding

(3)Run the Window0. The initial display is as follows



Sliding Input Event—Horizontal Sliding

(4) Drag Text0 to the right with the mouse. During the dragging process, the content of Text0 remains unchanged(Figure1). When the mouse is released, the content of Text0 changes, showing the distance of dragging.(Figure2)

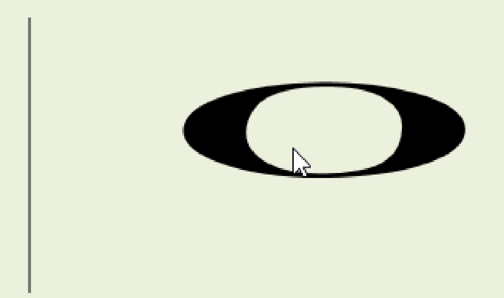


Figure1

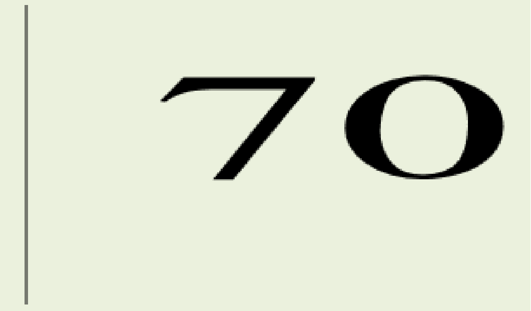
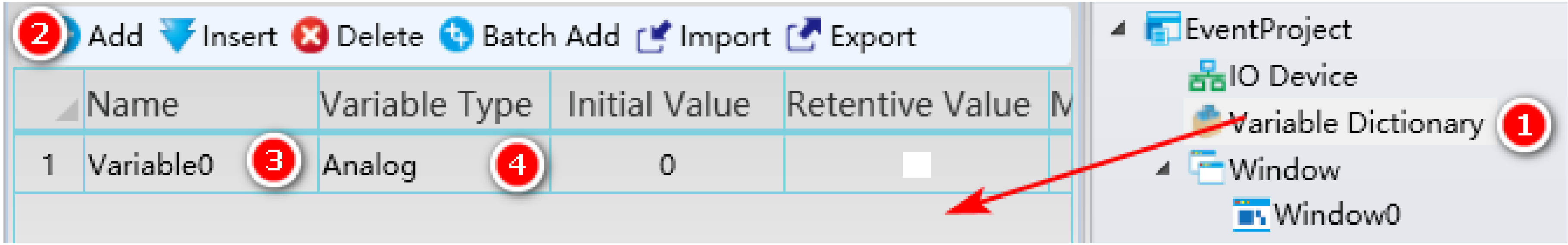


Figure2

Sliding Input Event—Vertical Sliding

- **Vertical Sliding event** example

Create a text and move it vertically and display the distance of moving :
(1)Create a analog variable: Variable0

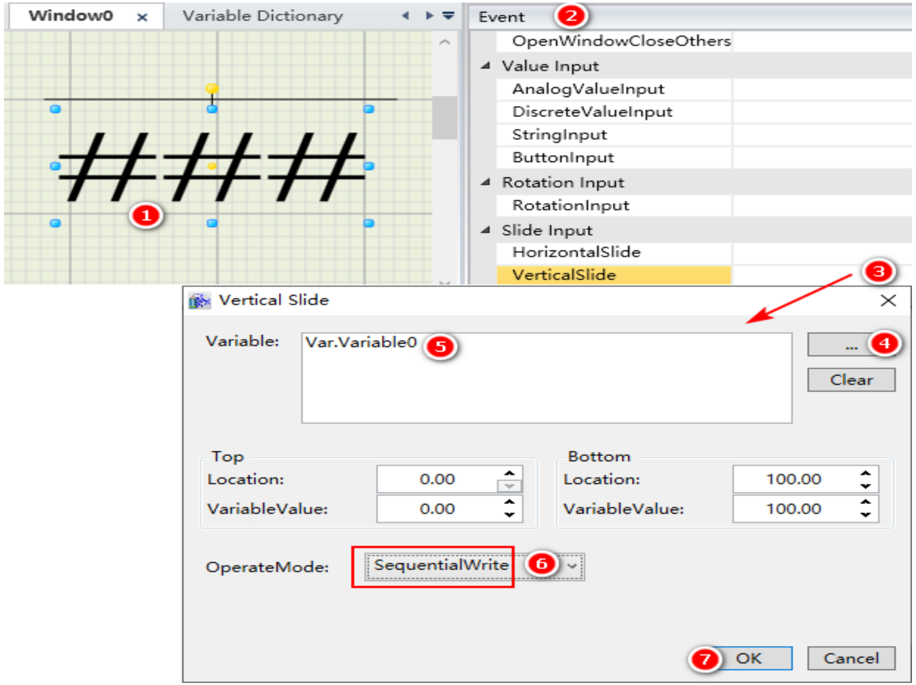


	Name	Variable Type	Initial Value	Retentive Value	M
1	Variable0	Analog	0	☐	

※Refer to the section “6.3 Variables” in user manual.

Sliding Input Event—Vertical Sliding

(2)Create a Text0 and a Line0 in the Window0.Configure event and animation of the Text0



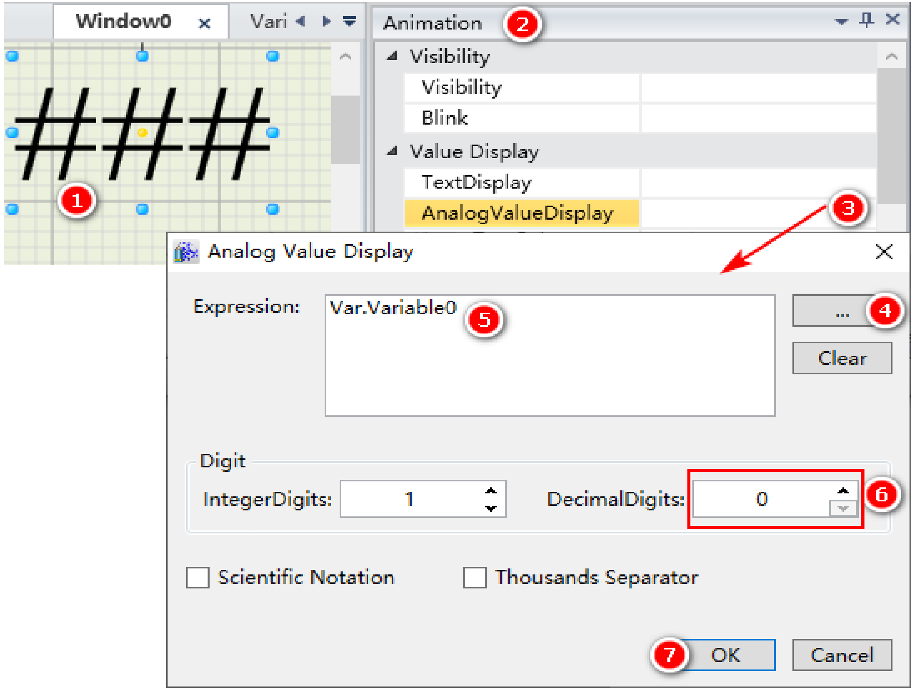
Variable: Var.Variable0

Top
Location: 0.00
VariableValue: 0.00

Bottom
Location: 100.00
VariableValue: 100.00

OperateMode: SequentialWrite

Vertical Slide Event



Expression: Var.Variable0

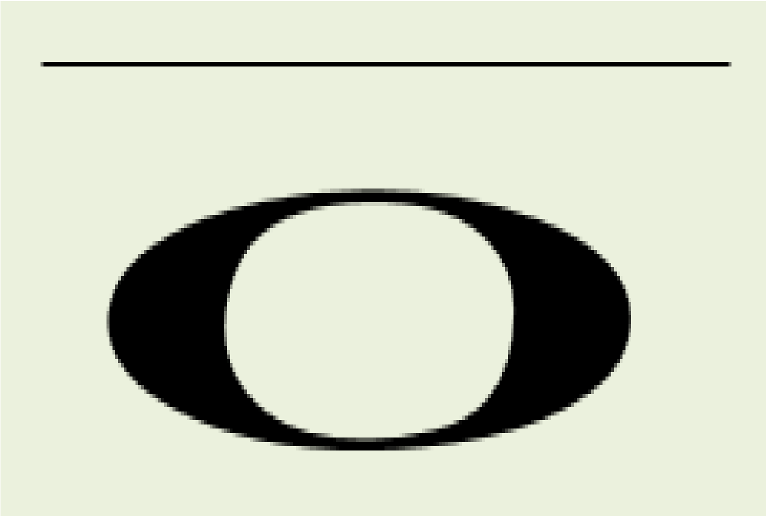
Digit
IntegerDigits: 1
DecimalDigits: 0

☐ Scientific Notation
☐ Thousands Separator

Analog Value Display Animation

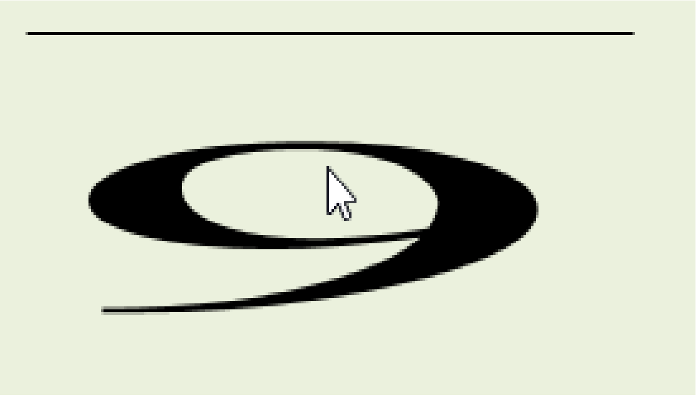
Sliding Input Event—Vertical Sliding

(3)Run the Window0. The initial display is as follows



Sliding Input Event—Vertical Sliding

(4) Drag the Text0 down with the mouse. During the dragging process, the content of Text0 changes as the drag distance changes, that is, Text0 displays the drag distance in real time



Outline

- The concepts of event
- Left button event
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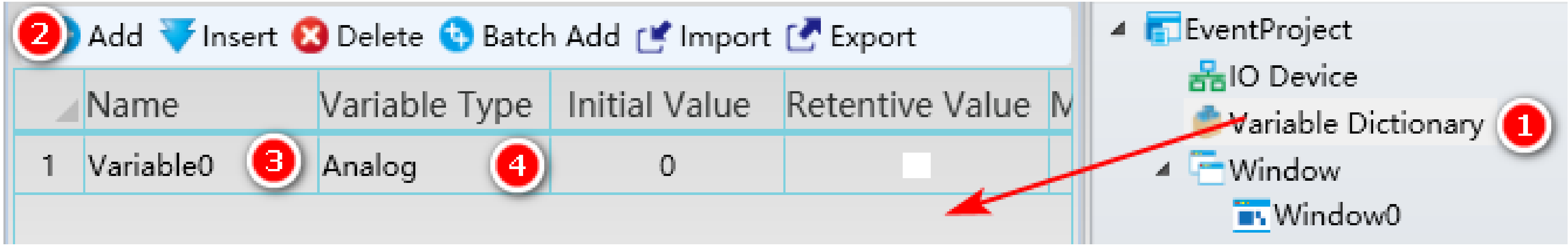
- Window operation event
- Value input event
- Sliding input event
- Rotation input event
- Window program event
- Control event
- Keyboard

Value Input Event—Analog Value Input

- **Analog Value Input event** example

Input a analog value in the text with the analog value input event :
(1)Create a analog variable: Variable0

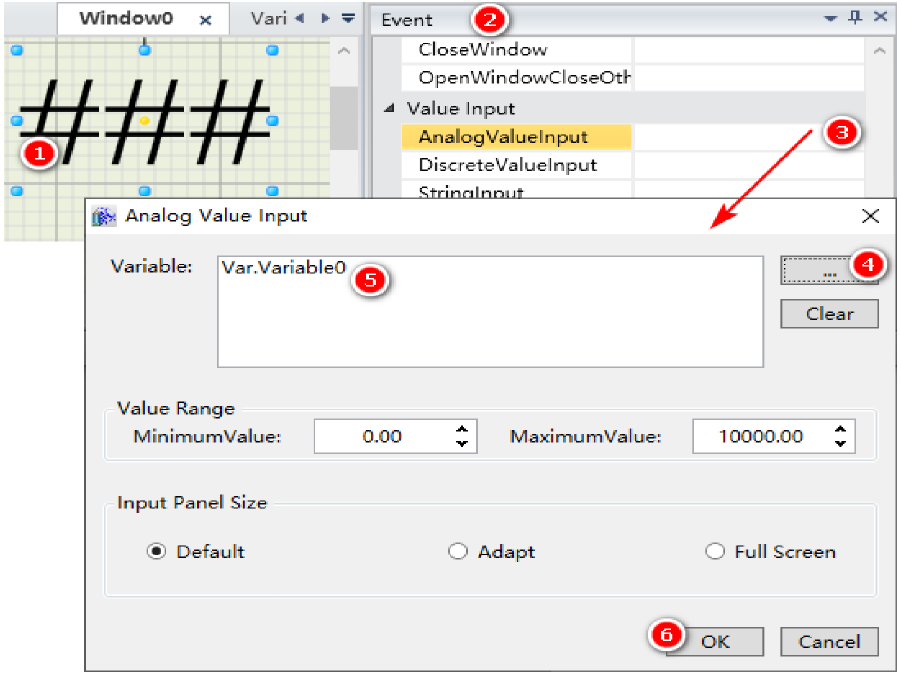


	Name	Variable Type	Initial Value	Retentive Value
1	Variable0	Analog	0	☐

※Refer to the section “6.3 Variables” in user manual.

Value Input Event—Analog Value Input

(2)Create a Text0 in the Window0.Configure event and animation of the Text0

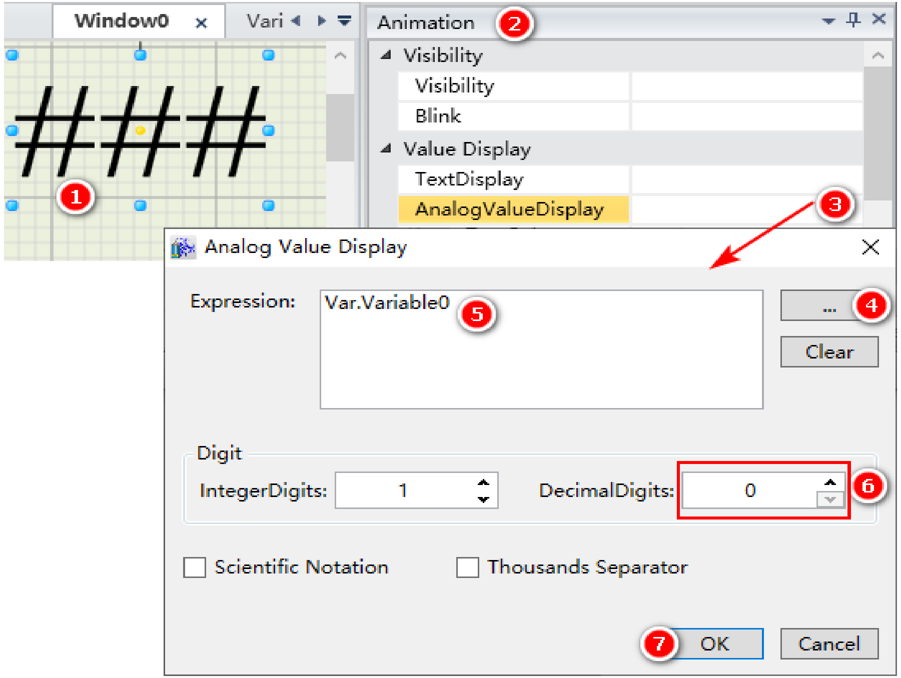


Variable: Var.Variable0

MinimumValue: 0.00 MaximumValue: 10000.00

● Default ○ Adapt ○ Full Screen

Analog Value Input event



Expression: Var.Variable0

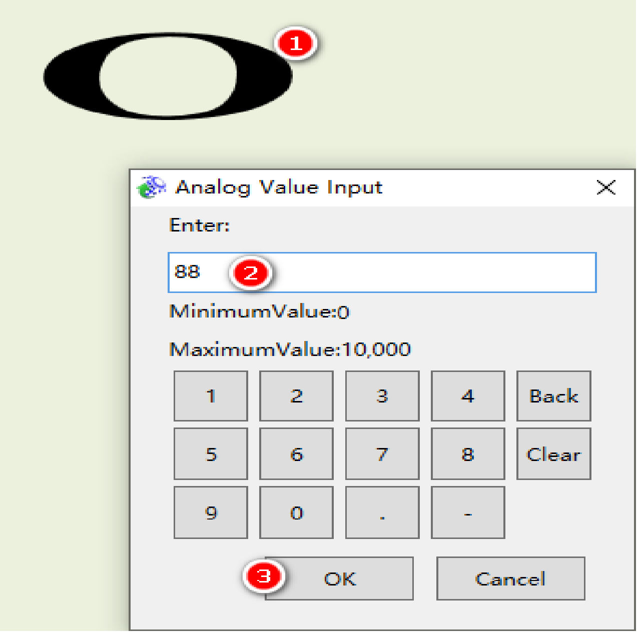
IntegerDigits: 1 DecimalDigits: 0

☐ Scientific Notation ☐ Thousands Separator

Analog Value Display Animation

Value Input Event—Analog Value Input

(3)Run the Window0.Click Text0 to input 88 in the Text0



Analog Value Input

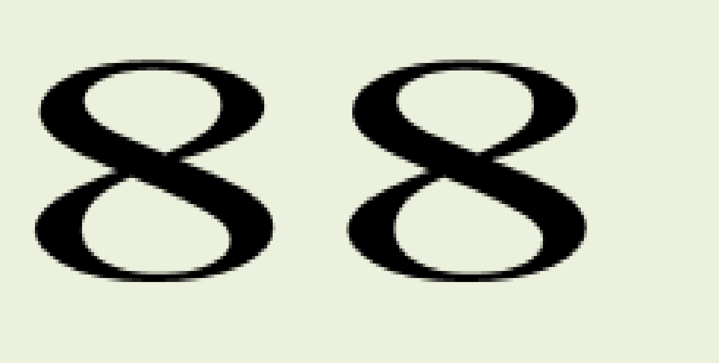
Enter: 88

MinimumValue:0

MaximumValue:10,000

Value Input Event—Analog Value Input

(4)The Text0 displays 88.



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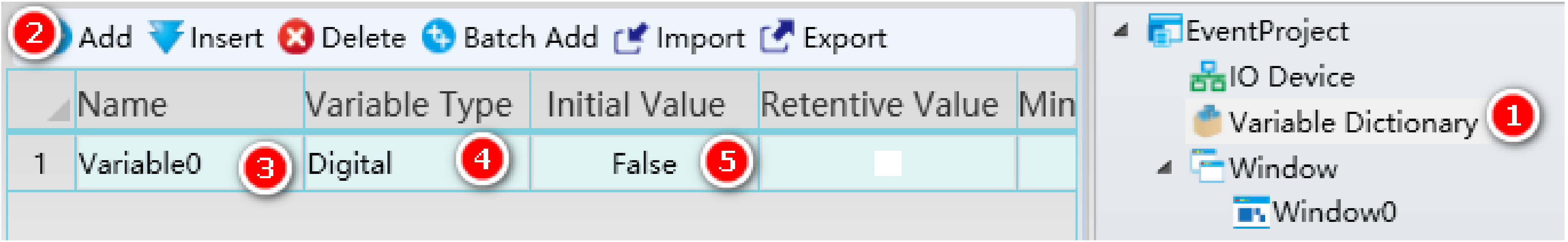
Value Input Event—Discrete Value Input

- **Discrete Value Input event** example

Input a discrete value in the text with the discrete value input event :
(1)Create a digital variable: Variable0

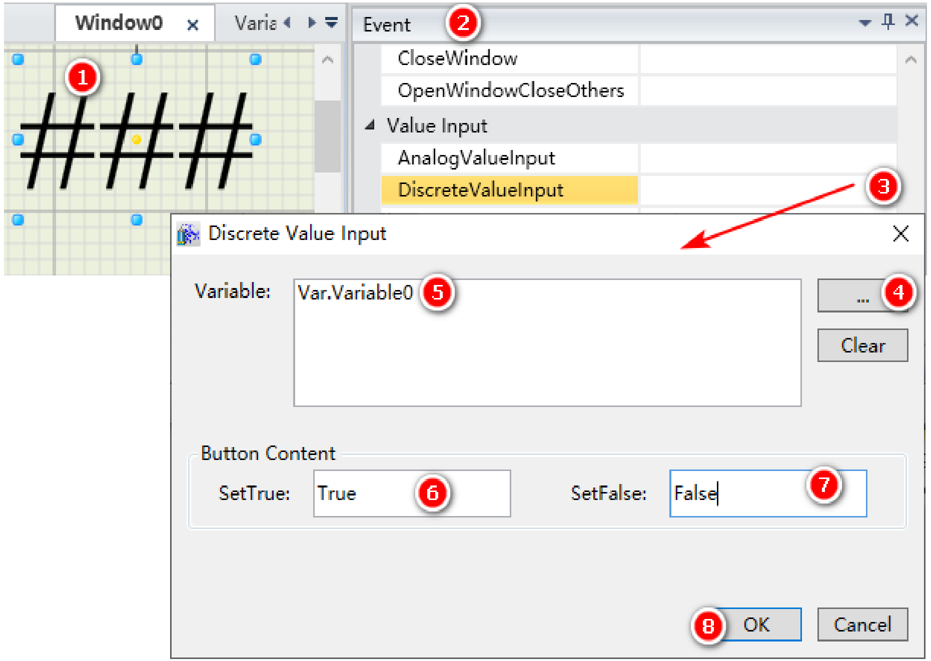


	Name	Variable Type	Initial Value	Retentive Value	Min
1	Variable0	Digital	False	☐	

※Refer to the section "6.3 Variables" in user manual.

Value Input Event—Discrete Value Input

(2)Create a Text0 in the Window0.Configure event and animation of the Text0

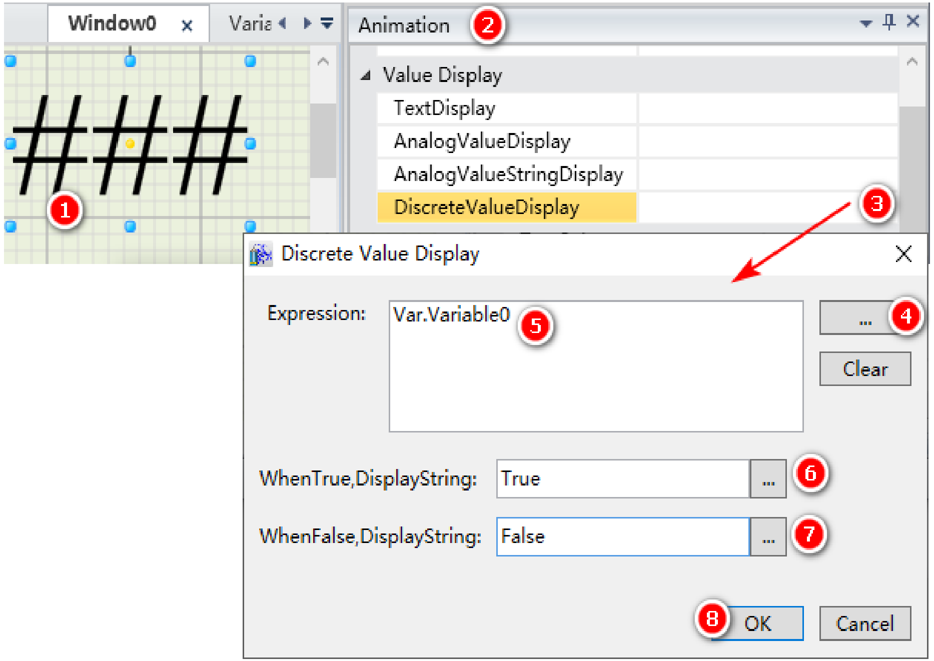


Variable: Var.Variable0

SetTrue: True

SetFalse: False

Analog Value Input event



Expression: Var.Variable0

WhenTrue,DisplayString: True

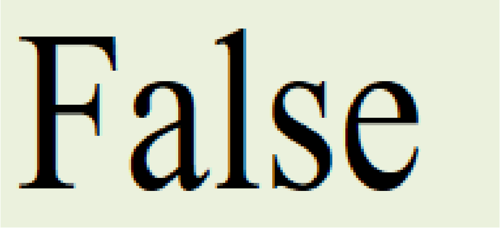
WhenFalse,DisplayString: False

Discrete Value Display Animation

Delta Confidential

Value Input Event—Discrete Value Input

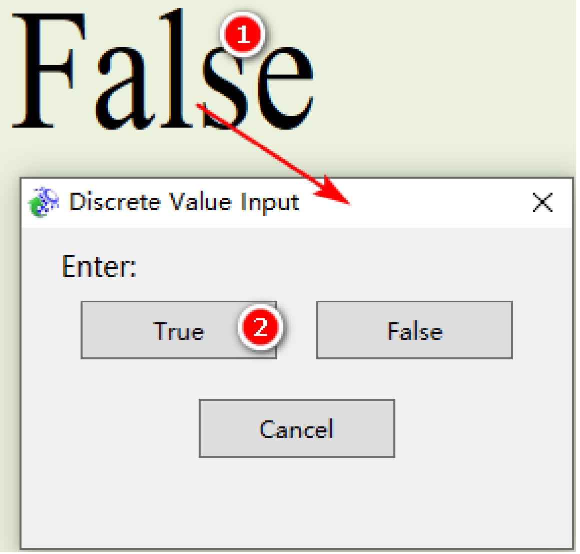
(3)Run the Window0.The Text0 displays “False” default

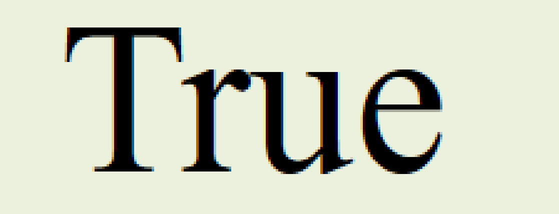


False

Value Input Event—Discrete Value Input

(4)Click the Text0 to input True in it, then the Text0 displays “True”

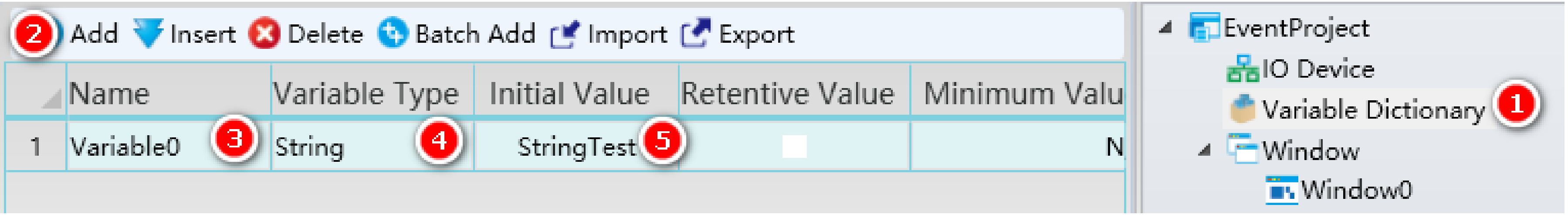




Value Input Event—String Input

- **String Input event** example

Input a string in the text with the string input event :
(1)Create a string variable: Variable0

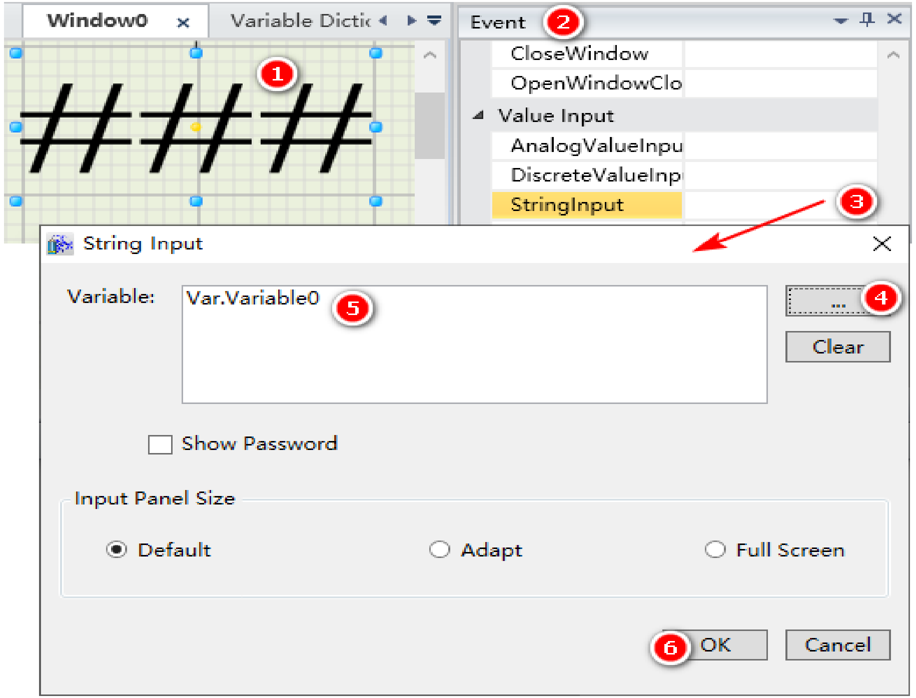


	Name	Variable Type	Initial Value	Retentive Value	Minimum Valu
1	Variable0	String	StringTest	☐	N

※Refer to the section "6.3 Variables" in user manual.

Value Input Event—String Input

(2)Create a Text0 in the Window0.Configure event and animation of the Text0



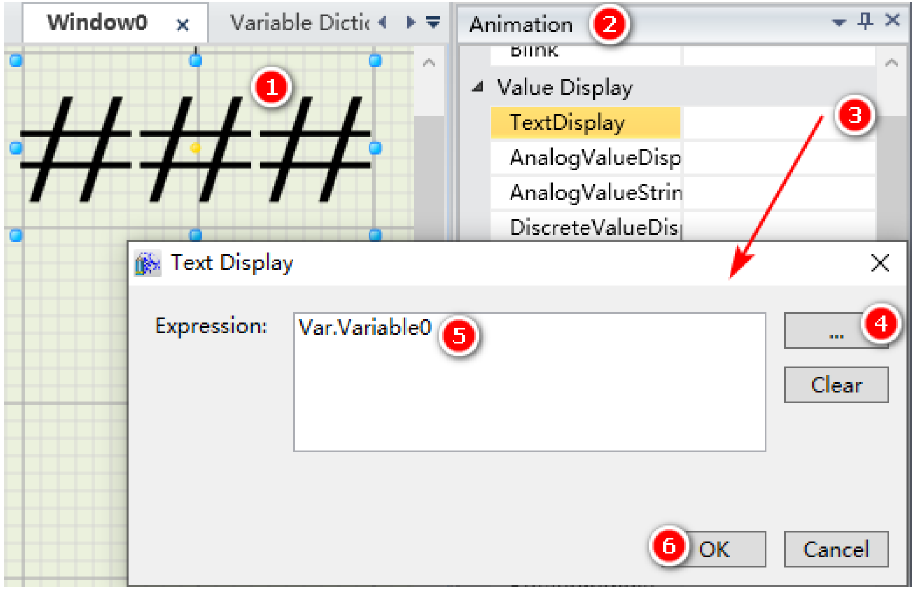
Variable: Var.Variable0

☐ Show Password

Input Panel Size

● Default ○ Adapt ○ Full Screen

String Input event

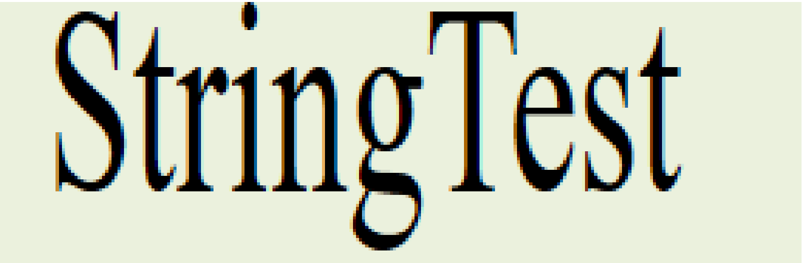


Expression: Var.Variable0

Text Display Animation

Value Input Event—String Input

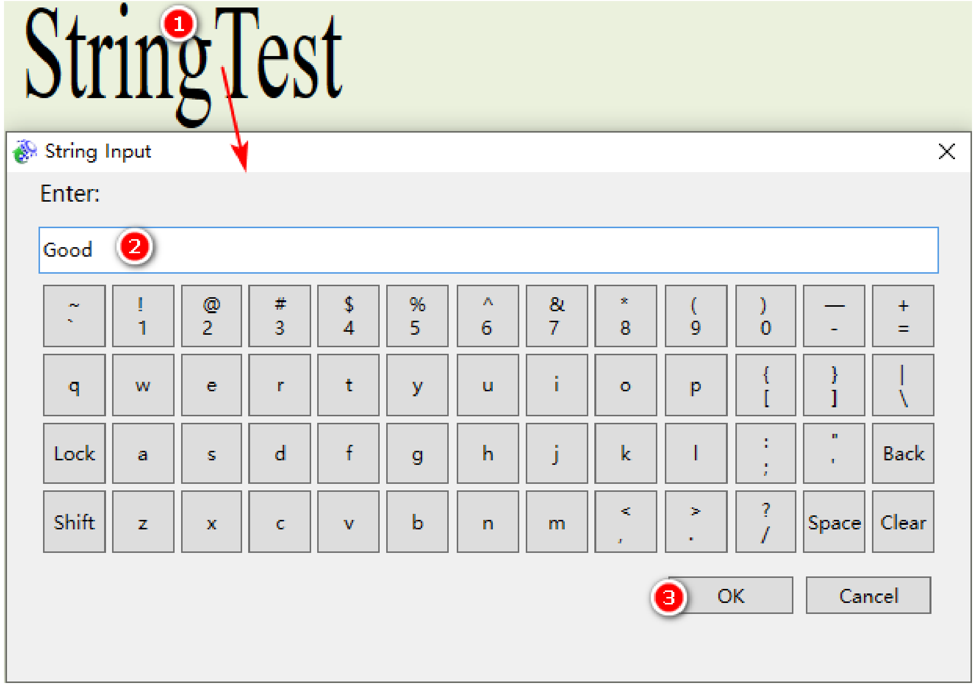
(3)Run the Window0.The Text0 displays “StringTest” default

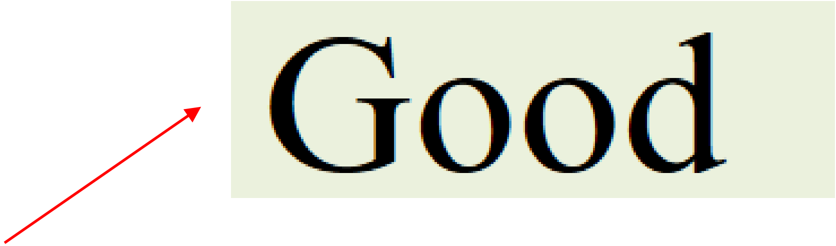


StringTest

Value Input Event—String Input

(4)Click the Text0 to input Good in it, then the Text0 displays “Good”

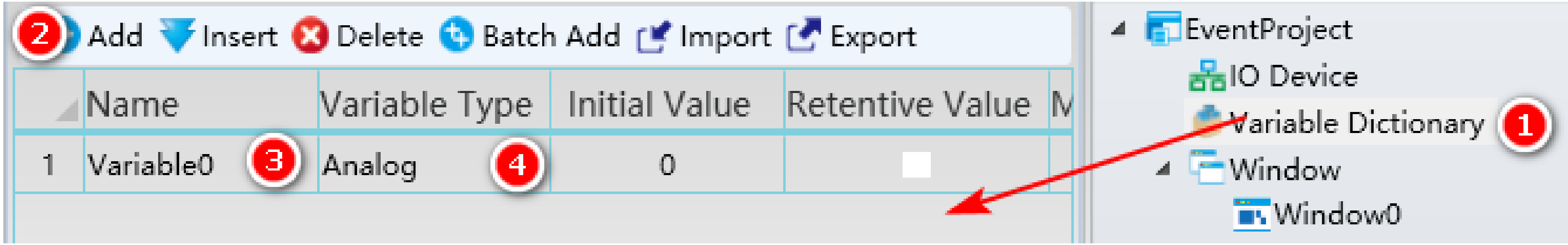




Value Input Event—Button Input

- **Button Input event** example1

Set value of a variable with the button input event :
(1)Create a string variable: Variable0

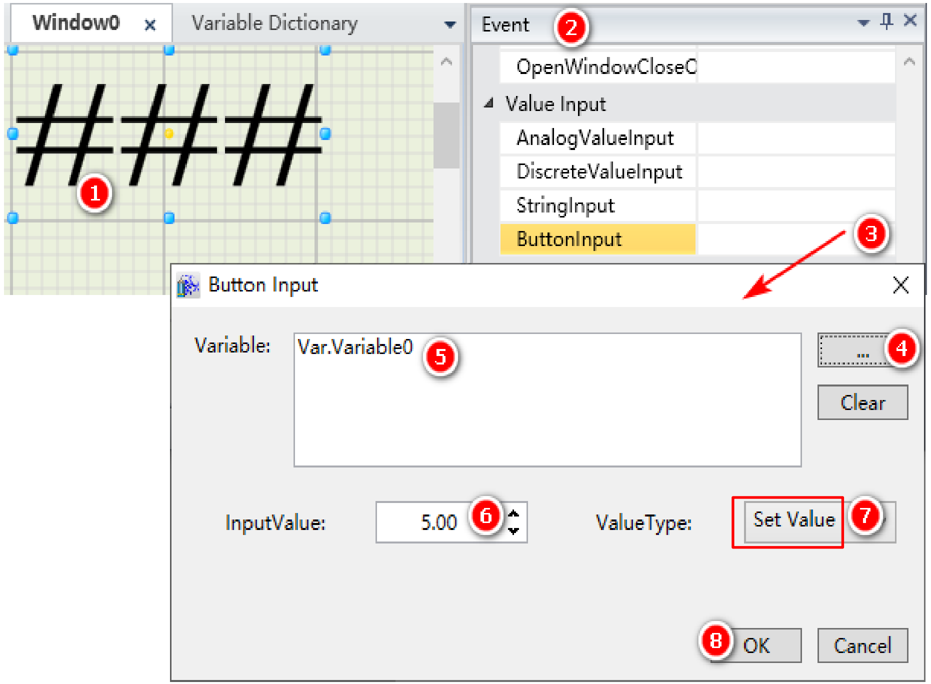


	Name	Variable Type	Initial Value	Retentive Value	M
1	Variable0	Analog	0	☐	

※Refer to the section "6.3 Variables" in user manual.

Value Input Event—Button Input

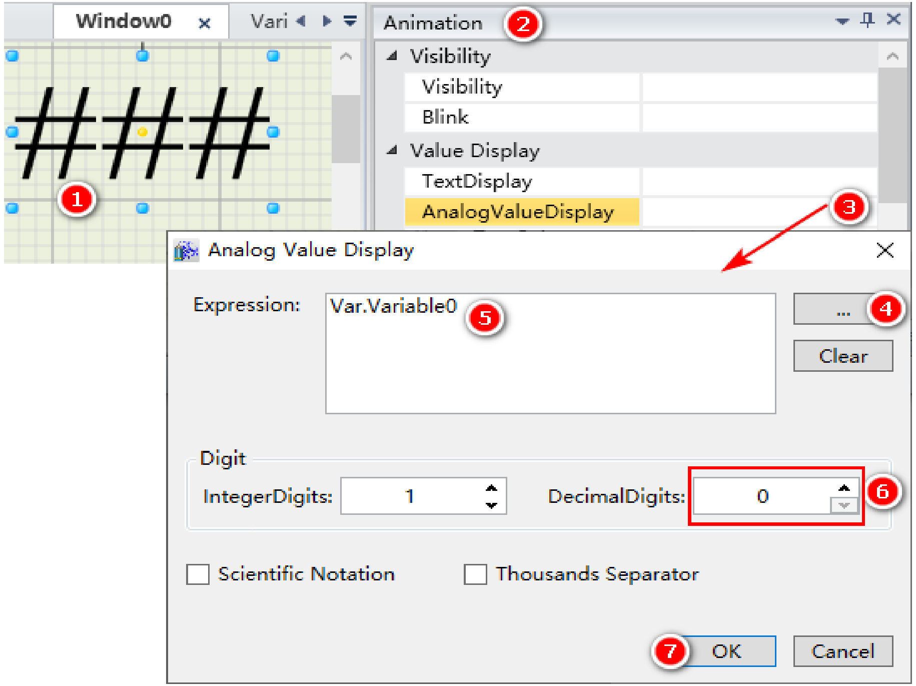
(2)Create a Text0 in the Window0.Configure event and animation of the Text0



Variable: Var.Variable0 ⑤

InputValue: 5.00 ⑥

ValueType: Set Value ⑦



Expression: Var.Variable0 ⑤

IntegerDigits: 1

DecimalDigits: 0 ⑥

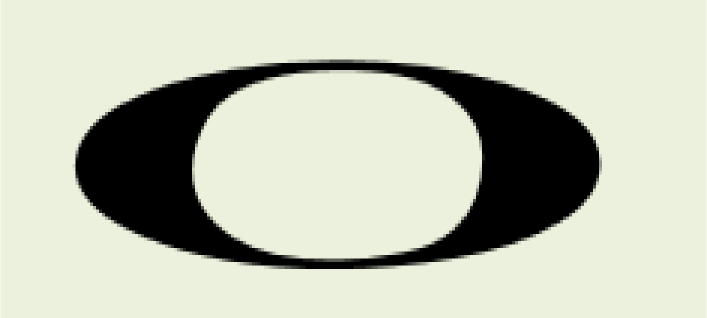
☐ Scientific Notation ☐ Thousands Separator

Button Input event

Analog Value Display Animation

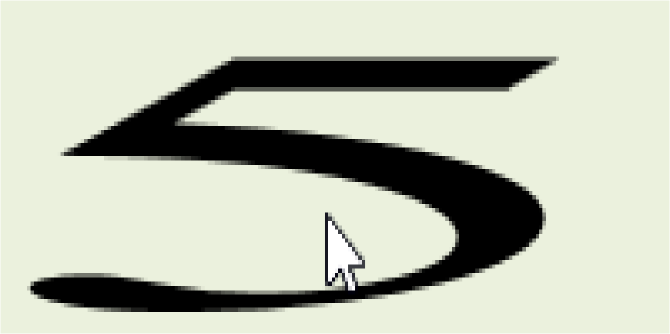
Value Input Event—Button Input

(3)Run the Window0.The Text0 displays “0” default



Value Input Event—Button Input

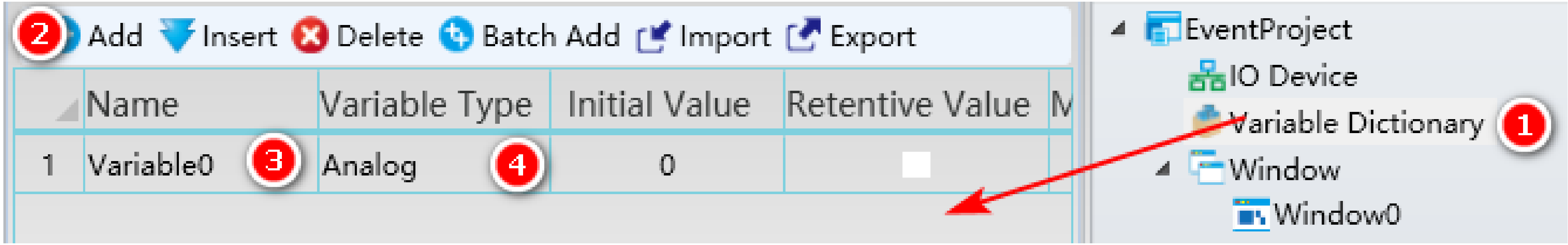
(4)Click the Text0, then the Text0 displays “5”



Value Input Event—Button Input

- **Button Input event** example2

Set value of a variable by increasing 5 each time:
(1)Create a analog variable: Variable0

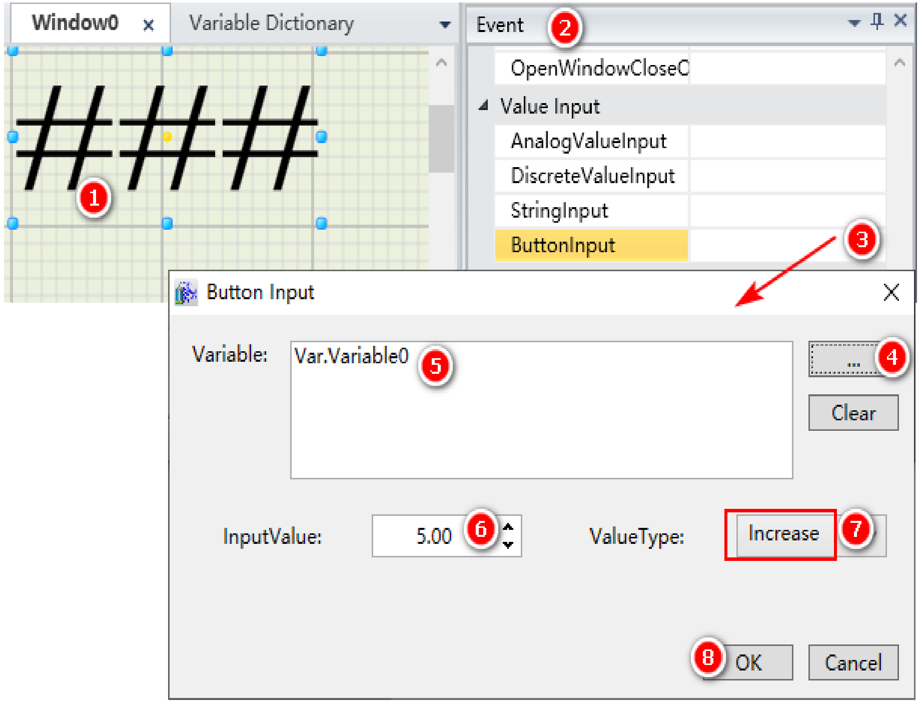


	Name	Variable Type	Initial Value	Retentive Value	M
1	Variable0	Analog	0	☐	

※Refer to the section “6.3 Variables” in user manual.

Value Input Event—Button Input

(2)Create a Text0 in the Window0.Configure event and animation of the Text0

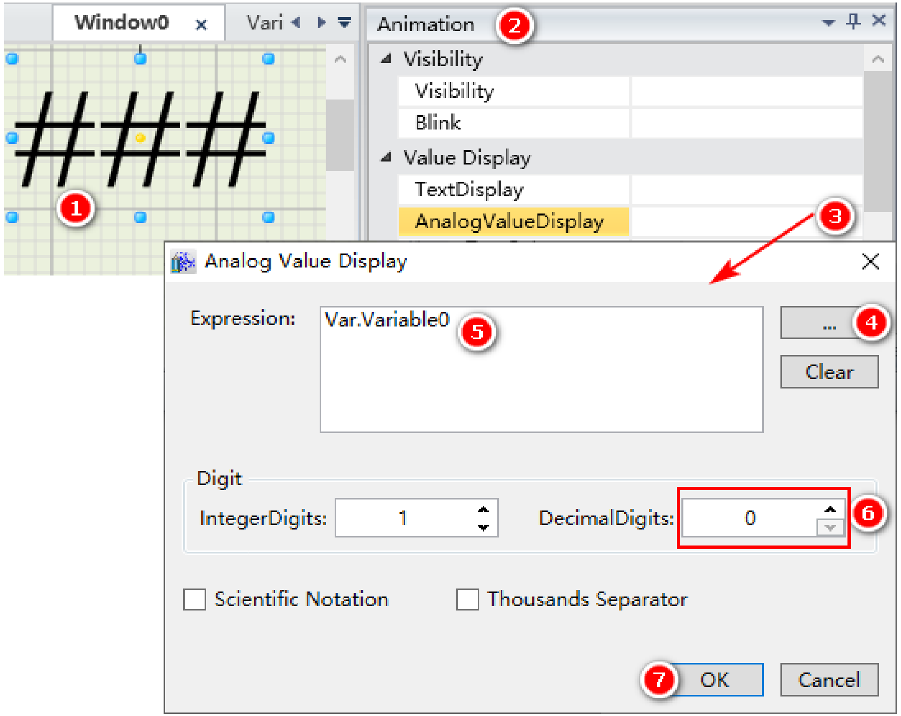


Variable: Var.Variable0

InputValue: 5.00

ValueType: Increase

Button Input event



Expression: Var.Variable0

IntegerDigits: 1

DecimalDigits: 0

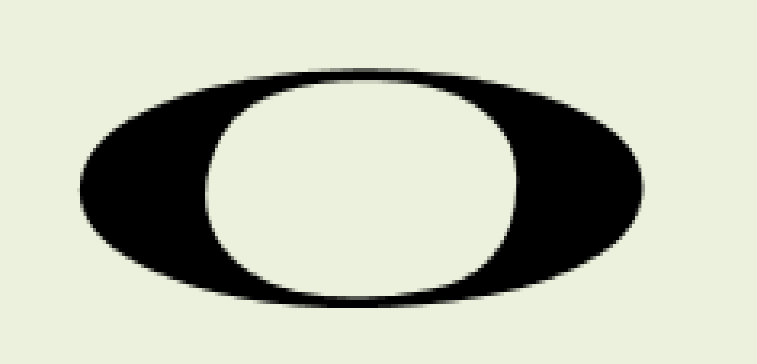
☐ Scientific Notation

☐ Thousands Separator

Analog Value Display Animation

Value Input Event—Button Input

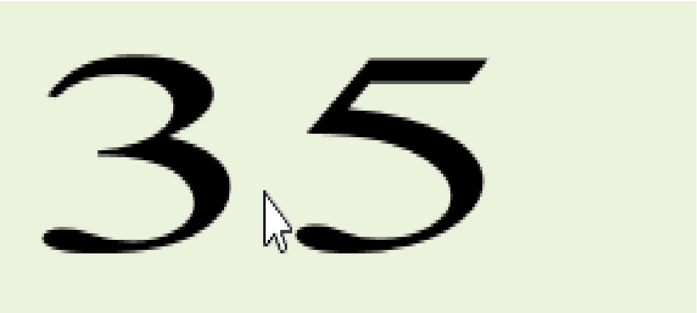
(3)Run the Window0.The Text0 displays “0” default



0

Value Input Event—Button Input

(4) Click the Text0 multiple times, each time the display value of the Text0 is incremented by 5



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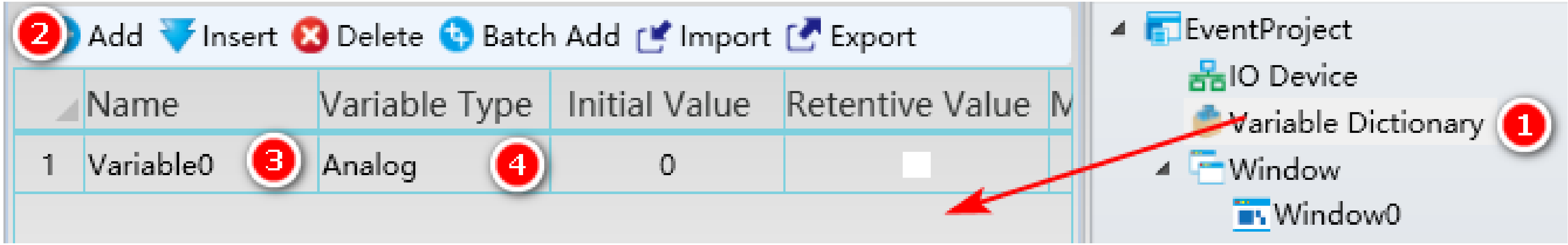
- Window program event
- Control event
- Keyboard

Rotation Input Event—Rotation Input

- **Rotation Input event** example

Create a rectangle that can be rotated:
(1)Create a analog variable: Variable0

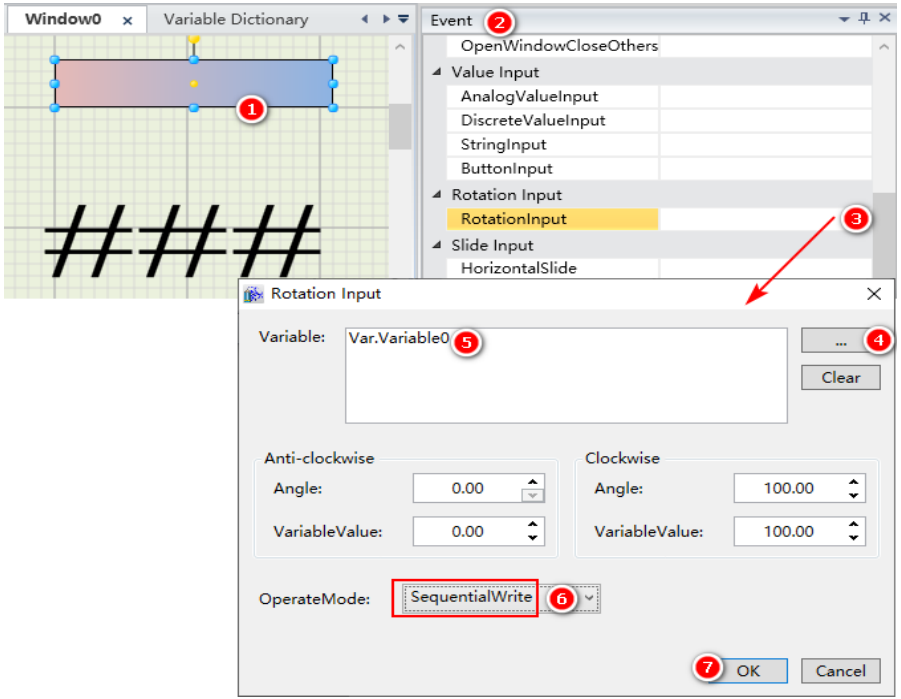


	Name	Variable Type	Initial Value	Retentive Value
1	Variable0	Analog	0	☐

※Refer to the section “6.3 Variables” in user manual.

Rotation Input Event—Rotation Input

(2)Create a Rectangle0 and a Text0 in the Window0.Configure rotation input event of Rectangle0 and analog value display animation of Text0



Rotation Input

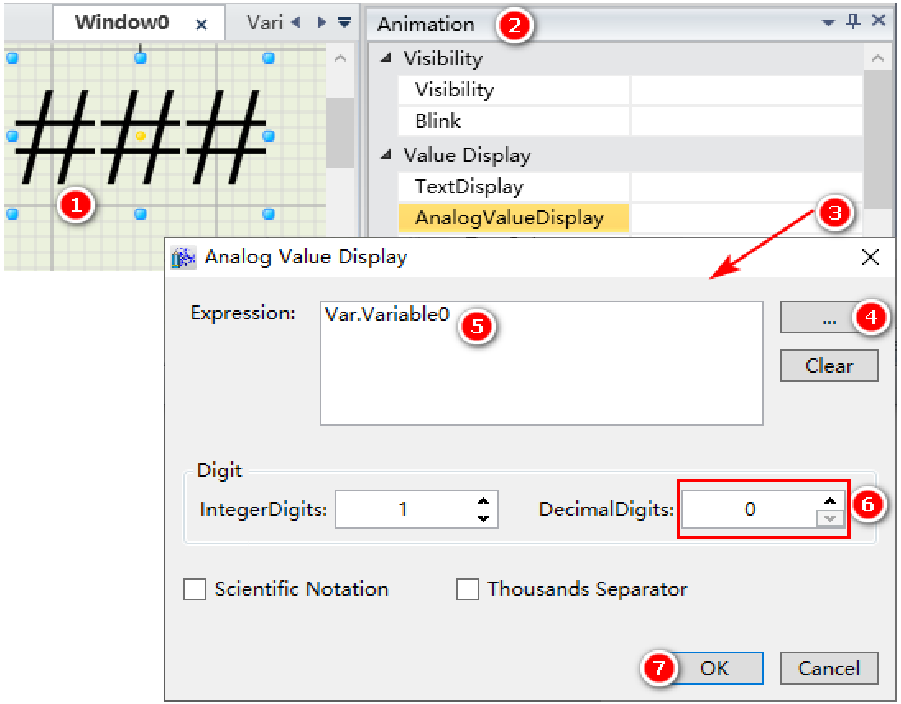
Variable: Var.Variable0

Anti-clockwise
Angle: 0.00
VariableValue: 0.00

Clockwise
Angle: 100.00
VariableValue: 100.00

OperateMode: SequentialWrite

Button Input event



Analog Value Display

Expression: Var.Variable0

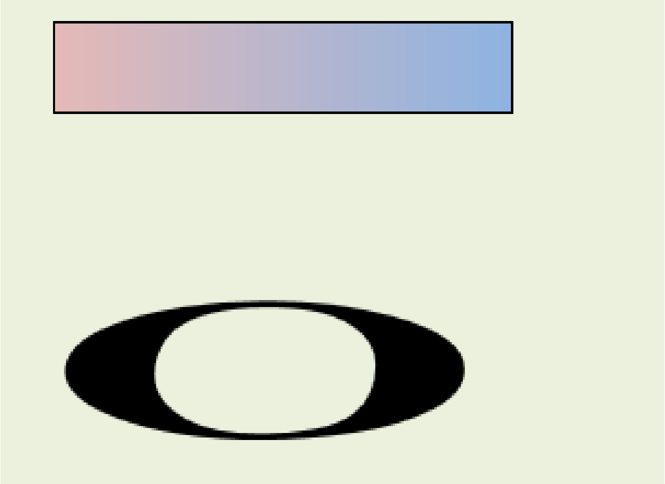
Digit
IntegerDigits: 1
DecimalDigits: 0

☐ Scientific Notation
☐ Thousands Separator

Analog Value Display Animation

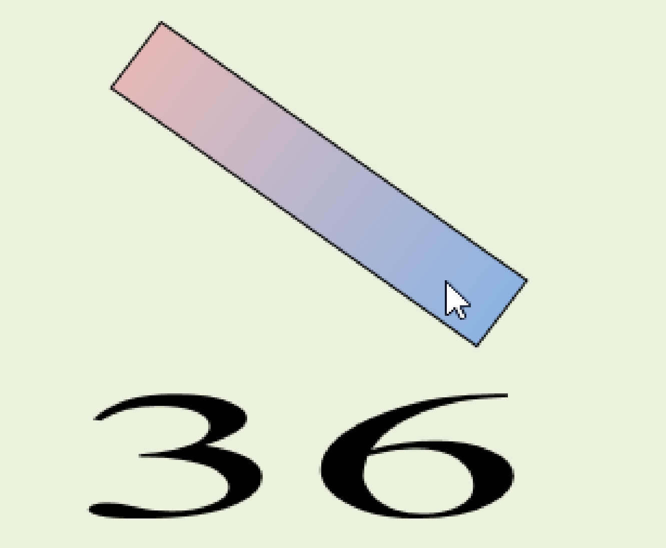
Rotation Input Event—Rotation Input

(3)Run the Window0. The initial display is as follows



Rotation Input Event—Rotation Input

(4) Drag the Rectangle0 clockwise with the mouse. During the dragging process, the content of Text0 changes as the rotation angle changes, that is, Text0 displays the rotation angle of the Recatangle0 in real time



Outline

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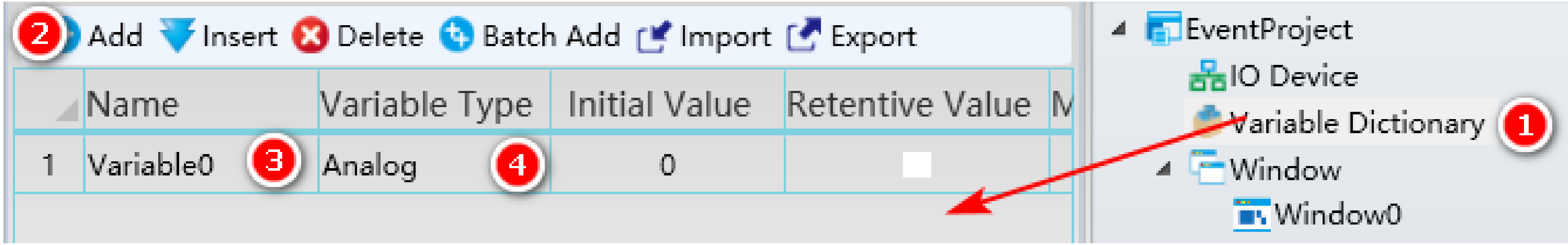
Window Program Event—Window Program

- **Window Program event** example

Create a window program to be executed at runtime:
(1)Create a analog variable: Variable0

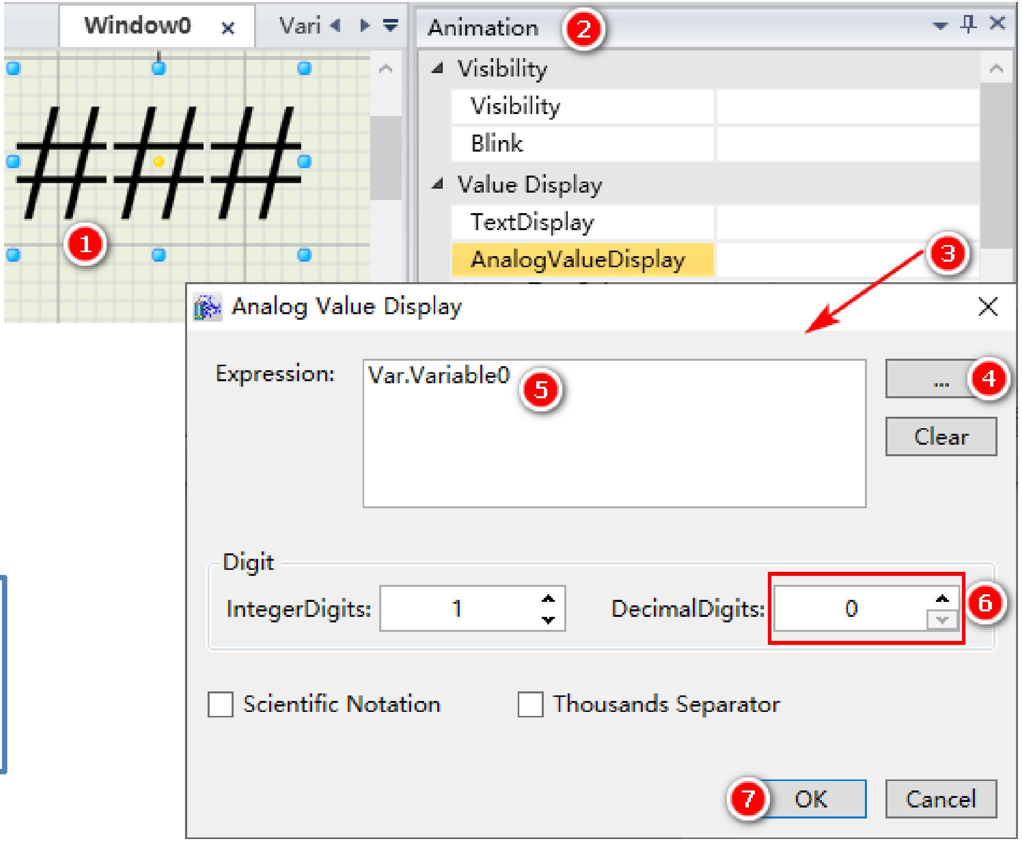


	Name	Variable Type	Initial Value	Retentive Value	M
1	Variable0	Analog	0	☐	

※Refer to the section "6.3 Variables" in user manual.

Window Program Event—Window Program

(2)Create a Text0 in the Window0. The analog value display animation of the Text0 associated Variable0



Expression: Var.Variable0

IntegerDigits: 1

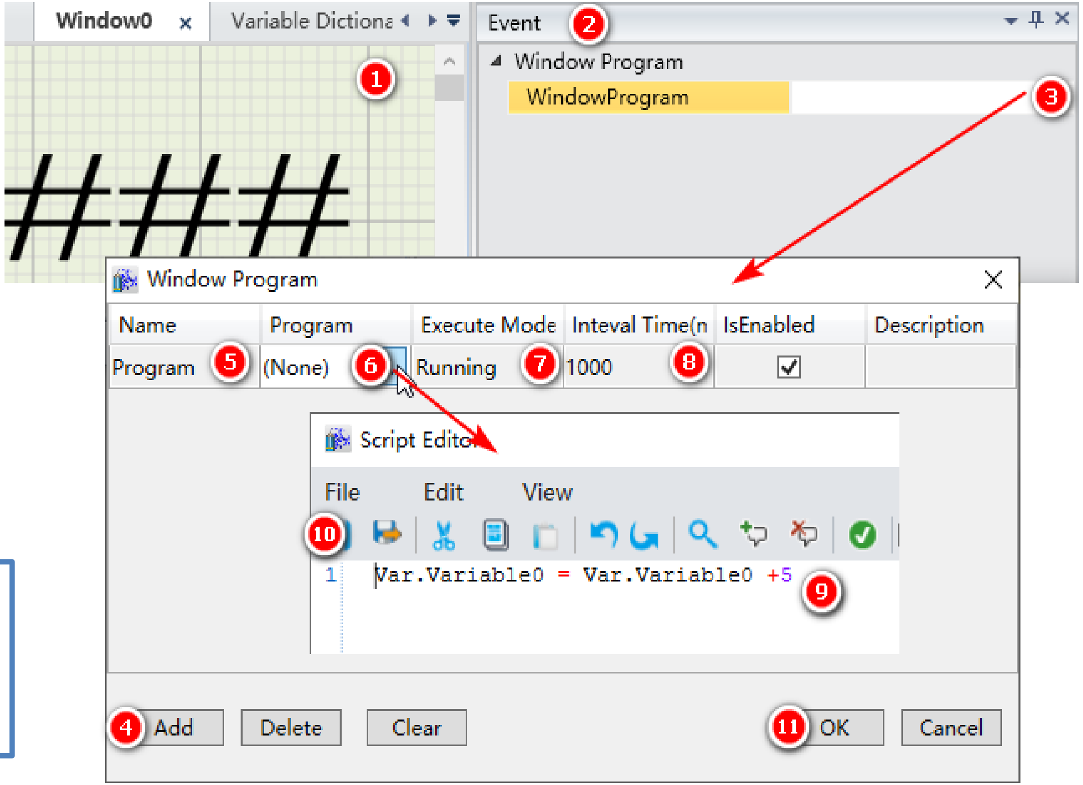
DecimalDigits: 0

☐ Scientific Notation ☐ Thousands Separator

※ Refer to the section "9.9 Value display animation" in user manual.

Window Program Event—Window Program

(3)Create a window program in the Window0(Refer to the section “10.9 Window program event” in user manual)



Name	Program	Execute Mode	Inteval Time(n	IsEnabled	Description
Program	(None)	Running	1000	☑	

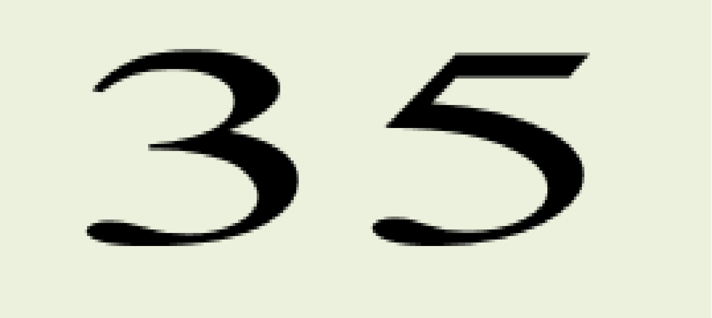
```
Var.Variable0 = Var.Variable0 +5
```

①Click any blank space in Window0
②Open event window
⑤Name the window program
⑦⑧Set to execute every second at run time

※ Refer to the section “10.9 Window program event” in user manual.

Window Program Event—Window Program

(4)Run the Window0. The Text0 initially displays 0, and the displayed value increases by 5 per second


35

Outline

- The concepts of event
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- Sliding input event
- Rotation input event
- Window program event
- Control event
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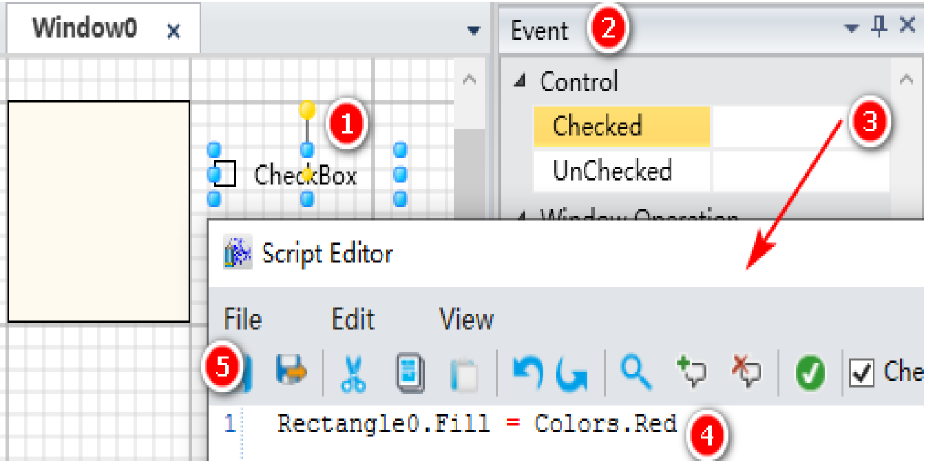
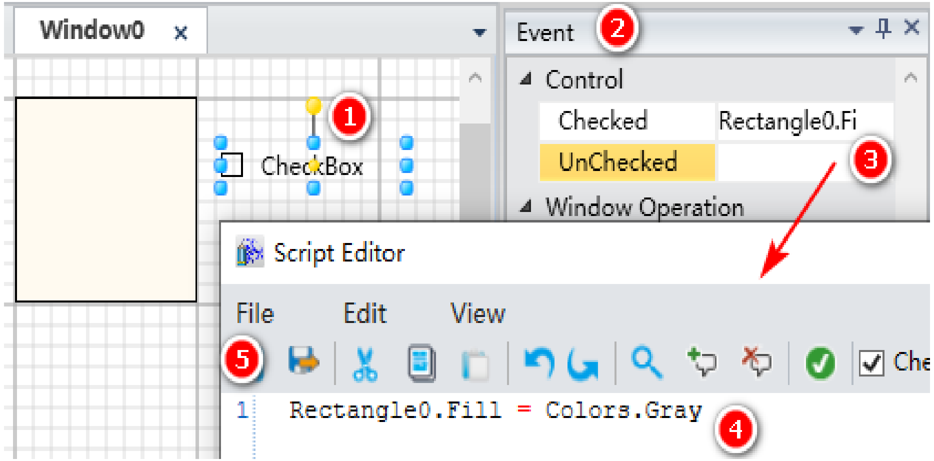
Control Event—Checked/UnChecked

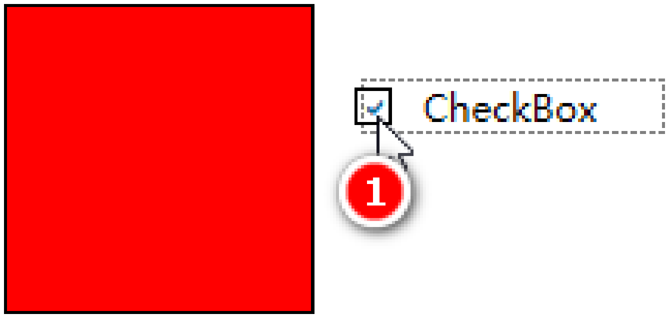
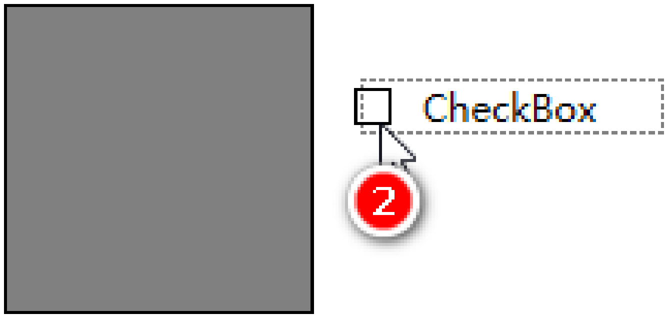
- **Checked/UnChecked event** example

Set rectangle color with the control event of checkbox:
(1)Create a Checkbox0 and a Rectangle0 in the Window0. Configure the control event of Checkbox0

 Window0 CheckBox Event Control Checked UnChecked Window Operation Script Editor File Edit View Che 1 2 3 4 5 `Rectangle0.Fill = Colors.Red`	 Window0 CheckBox Event Control Window Operation Script Editor File Edit View Che 1 2 3 4 5 Checked Rectangle0.Fi UnChecked `Rectangle0.Fill = Colors.Gray`
Red	Gray

Control Event—Checked/UnChecked

(2)Run the Window0

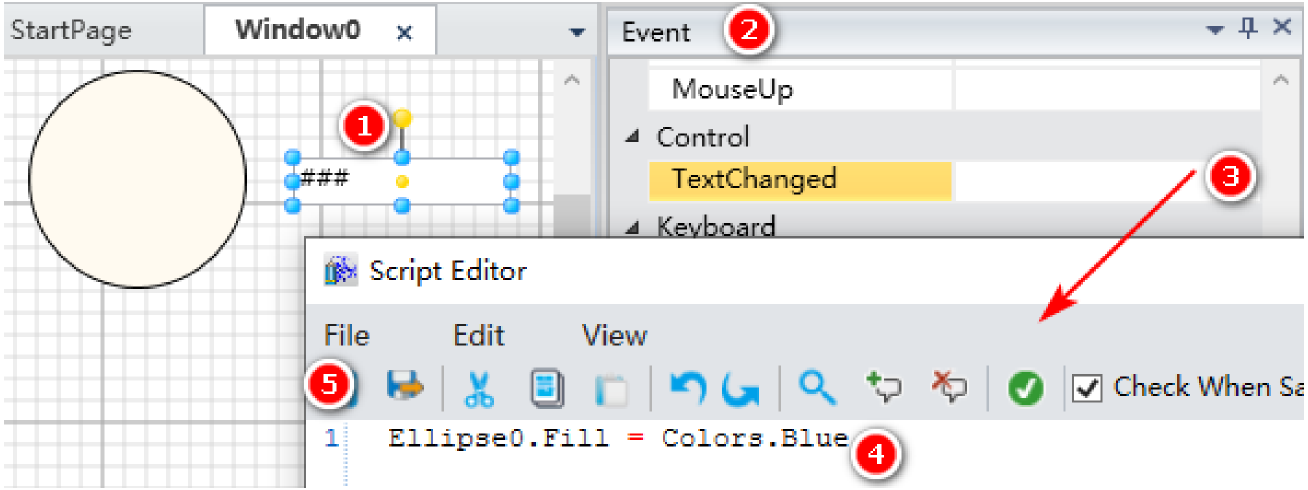
	
Red	Gray

①Check the Checkbox0, the Rectangle0 turns red
②Uncheck the Checkbox0, the Rectangle0 turns gray

Control Event—Text Changed

- **Text Change event** example

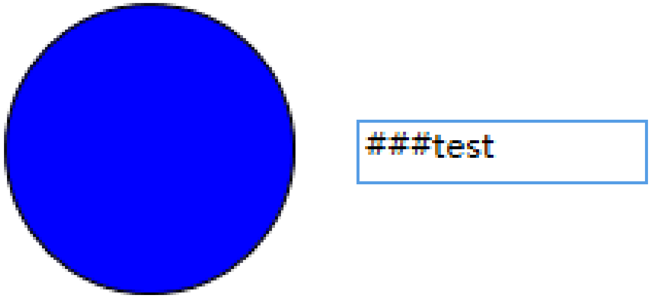
Set ellipse color with the control event of text box:
(1)Create a Ellipse0 and a TextBox0 in the Window0. Configure the text changed event of TextBox0.



```
Ellipse0.Fill = Colors.Blue
```

Control Event—Text Changed

(2)Run the Window0.Change the content of TextBox0, then the Ellipse0 turns blue.



###test

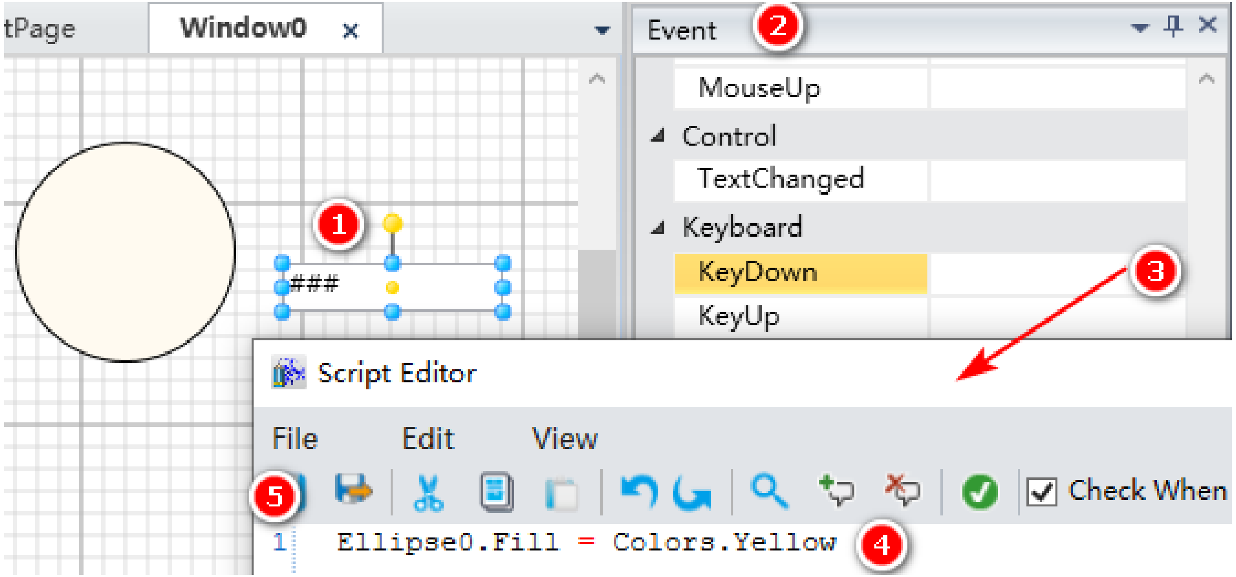
Outline

- The concepts of event
- Left button event
- Right button event
- Mouse event
- Window operation event
- Value input event
- Sliding input event
- Rotation input event
- Window program event
- Control event
- Keyboard

Keyboard Event—Key Down

- **Key Down event** example

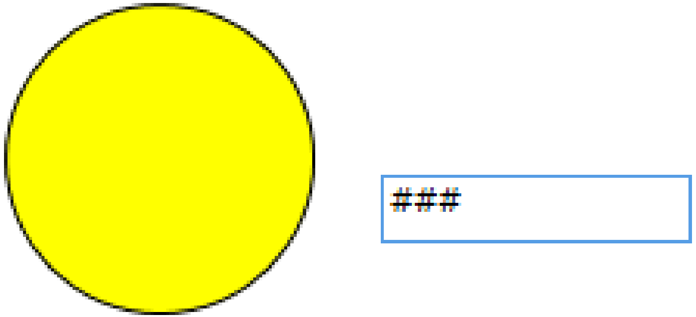
Set rectangle color with the control event of text box:
(1)Create a Ellipse0 and a TextBox0 in the Window0. Configure the key down event of TextBox0.



```
Ellipse0.Fill = Colors.Yellow
```

Keyboard Event—Key Down

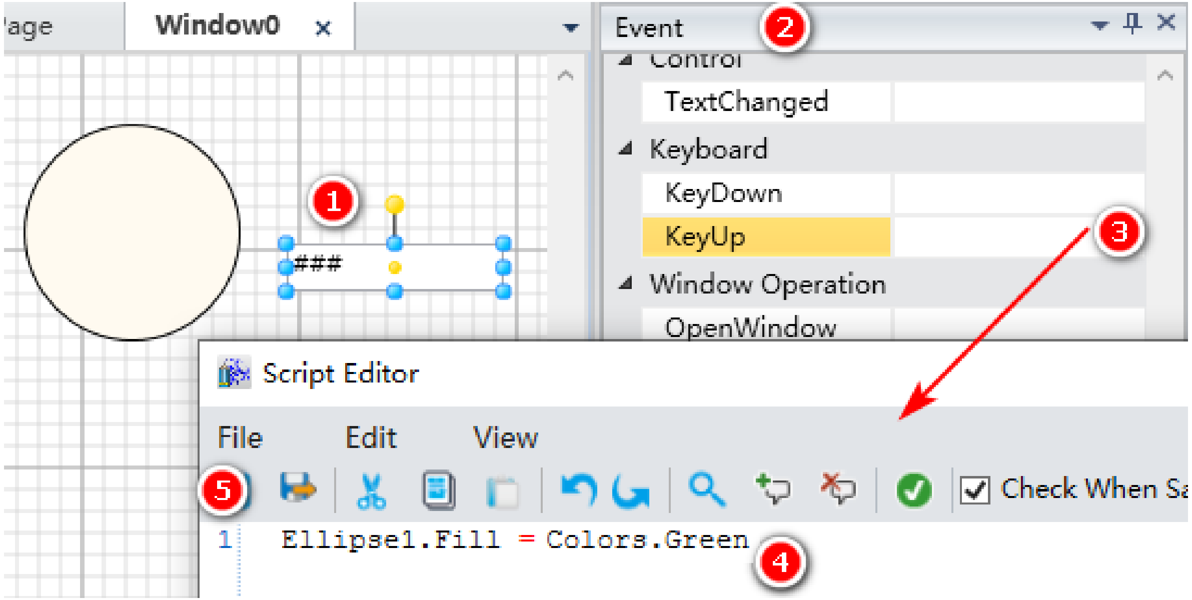
(2)Run the Window0. When mouse focus is in TextBox0, press any key on the keyboard, the Ellipse0 turns yellow



Keyboard Event—Key Up

- **Key Up event** example

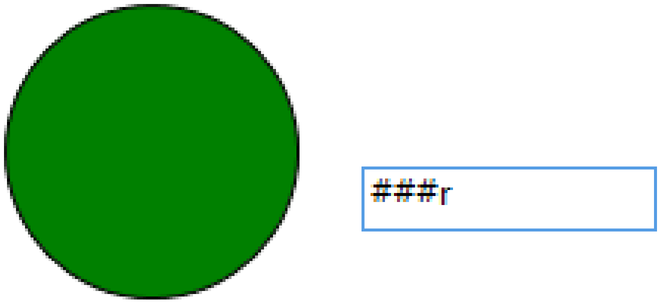
Set rectangle color with the control event of text box:
(1)Create a Ellipse0 and a TextBox0 in the Window0. Configure the key up event of TextBox0.



```
Ellipse1.Fill = Colors.Green
```

Keyboard Event—Key Up

(2)Run the Window0. When mouse focus is in TextBox0 , press any key on the keyboard, the colour of the Ellipse0 does not change. When the key is released, the Ellipse0 turns green.



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