

## Interactive In and Output

- ▶ We have already seen how to transfer data between the spreadsheet and VBA programs, by writing into cells and reading from cells:
  - VBA program → spreadsheet  
Range("A1").value = 2  
(puts the value 2 into cell A1)
  - spreadsheet → VBA program  
x = Range("A1").value  
(assigns the value of cell A1 to the variable x)
- ▶ Now we look at another useful technique, using message boxes.
  - this is useful when you write a code for a user, who does not know about the VBA code, as you can provide more information

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### ▶ Message box:

- displays a message in a dialog box and returns an integer value which depends on the answer of the user

syntax:

```
return = MsgBox(prompt [, buttons] [, title] [, helpfile ,context])
```

- parameters in [ ] are optional, i.e. you don't have to specify them
- when you omit the optional parameters you have to include the ,
- or:

syntax:

```
return = MsgBox(prompt:= "...", title:= "..."] ... )
```

- now you do not have to include the commas
- we will not treat here the helpfile and context option (they allow to display some help information)

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prompt ≡ string expression, the text displayed in the dialog box  
(maximal 1024 characters)

title ≡ string expression, the text displayed in the title bar of  
the dialog box. When omitted, it is the application name.

buttons ≡ a sum of several values specifying:

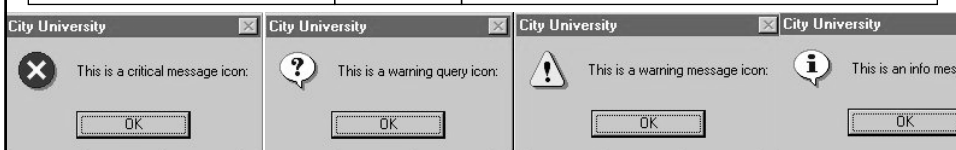
(a) the number and type of buttons:

Constant	Value	Description
<b>vbOKOnly</b>	0	<b>OK</b> button only
<b>vbOKCancel</b>	1	<b>OK</b> and <b>Cancel</b>
<b>vbAbortRetryIgnore</b>	2	<b>Abort</b> , <b>Retry</b> , and <b>Ignore</b>
<b>vbYesNoCancel</b>	3	<b>Yes</b> , <b>No</b> , and <b>Cancel</b>
<b>vbYesNo</b>	4	<b>Yes</b> and <b>No</b>
<b>vbRetryCancel</b>	5	<b>Retry</b> and <b>Cancel</b>

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(b) the icon style

<b>vbCritical</b>	16	Display <b>Critical Message</b> icon
<b>vbQuestion</b>	32	Display <b>Warning Query</b> icon
<b>vbExclamation</b>	48	Display <b>Warning Message</b> icon
<b>vbInformation</b>	64	Display <b>Info Message</b> icon



(c) the default button

(this is the button selected when you just press return)

<b>vbDefaultButton1</b>	0	First button is default
<b>vbDefaultButton2</b>	256	Second button is default
<b>vbDefaultButton3</b>	512	Third button is default
<b>vbDefaultButton4</b>	768	Fourth button is default

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(d) the modality of display

<b>vbApplicationModal</b>	0	The application stops until the user responds
<b>vbSystemModal</b>	4096	whole system stops until the user responds
<b>vbMsgBoxHelpButton</b>	16384	adds Help button
<b>VbMsgBoxSetForeground</b>	65536	MsgBox is foreground
<b>vbMsgBoxRight</b>	524288	Text is right aligned
<b>vbMsgBoxRtlReading</b>	1048576	text right-to-left

- select maximal one number from each of the groups (a) to (d)
- you can either use the Excel constant name or the number  
e.g. buttons := 3 + 32  
    buttons := 35  
    buttons := **vbYesNoCancel + vbQuestion**

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return ≡ a number between 1 and 7 which depends on the answer

- you can either use the Excel constant name or the number

Constant	Return value	Selected button
<b>vbOK</b>	1	<b>OK</b>
<b>vbCancel</b>	2	<b>Cancel</b>
<b>vbAbort</b>	3	<b>Abort</b>
<b>vbRetry</b>	4	<b>Retry</b>
<b>vbIgnore</b>	5	<b>Ignore</b>
<b>vbYes</b>	6	<b>Yes</b>
<b>vbNo</b>	7	<b>No</b>

- e.g. if the OK button is selected return has the value 1 or vbOK

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► Examples:

```
Sub message1()
```

```
    MsgBox ("Do you know how to view pdf files?")
```

```
End Sub
```

```
or:    ret = MsgBox(Prompt:="Do you know how to view pdf files?")
```

```
Sub message2()
```

```
    prompt = "Do you know how to view pdf files?"
```

```
    title = "Programming Excel/VBA PartII"
```

```
    ret = MsgBox(prompt, , title)
```

```
End Sub
```

⇒ displays a message box with OK button

prompt: Do you know how to view pdf files?

title: Microsoft Excel (in message1)

title: Programming Excel/VBA PartII (in message2)

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```
Sub message3()
```

```
    .....
```

```
    ret = MsgBox(prompt:=pr, Buttons:=3, Title:=ti)
```

```
End Sub
```

⇒ displays a message box with Yes/No/Cancel button

```
Sub message4()
```

```
    .....
```

```
    bu = vbYesNoCancel + vbQuestion
```

```
    ret = MsgBox(prompt:=pr, Buttons:=bu, Title:=ti)
```

```
End Sub
```

⇒ displays a message box with Yes/No/Cancel button and question mark icon (warning query icon)

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```

Sub message5()
    pr = "Do you know how to view pdf files?"
    ti = "Programming Excel/VBA PartII"
111:
    ret = MsgBox(prompt:=pr, Buttons:=35, Title:=ti)
    If ret = vbYes Then      (or: ret = 6 then)
        ret = MsgBox("Good, you can print the lecture material", 48, ti)
    ElseIf ret = vbNo Then  (or: ret = 7 then)
        ret = MsgBox("By now you should know!", 16, ti)
    Else
        ret = MsgBox("Either you know or you don't. Decide!", 32, ti)
        GoTo 111
    End If
End sub

```

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► Goto command:

- forces the program to go to a certain position

```

syntax:
    position:
        .....
    Goto position

```

or:

```

syntax:
    Goto position
    .....
    position

```

☛ make sure can get out of this loop!!!!

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► Input box:

- displays a prompt in a dialog box, waits for the user to enter a text or click a button, and returns a string containing the content of the text box.

syntax:

```
return = InputBox(prompt [, title] [, default] [, xpos] [, ypos])
```

default   ≡ a default output value

xpos/ypos ≡ horizontal/vertical distance of the left/upper edge of the dialog box from the left/top edge of the screen.

return    ≡ string containing the content of the text box.