



## Excel Macros (VBA)– Chapter 3

### Decision Making (Control Structures)

# Chapter 3 : Decision Making

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- ▣ What is a Decision Making
- ▣ If...Then
- ▣ If...Then...Else
- ▣ If...Then...Elseif
- ▣ Select...Case
- ▣ Input Box
- ▣ Message Box

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## What is a Decision Making :

All the macros are executed line by line, starting from sub and ending with End Sub. Sometimes, you do not want your macro to execute all the lines. Based on the choice, you want your macro to execute a set of lines and ignore the rest. This is known as Decision Making. Decision Making controls the flow of the program. We have various control structure to control the flow of the program

### If...Then

#### Syntax:

**If** CONDITION **Then**

' code if the condition is met

**End If**

If the condition is True then the code between **If** and **End If** is executed. If the Condition is false then the code between **If** and **End If** is not executed

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If...Then...Else

**Syntax:**

**If** CONDITION **Then**

' code if the condition is met

**Else**

' code if the condition is not met

**End If**

If the condition is True then code under the **If** block is executed and the control transfers to **End If** ignoring the Else block. If the condition is false then the code under **Else** block is executed ignoring the If block.



**DEMO**

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## If...Then...Elseif

### Syntax:

#### **If** CONDITION1 **Then**

' code if the condition1 is met

#### **Elseif** CONDITION2 **Then**

' code if the Elseif condition2 is met

#### **Elseif** CONDITION3 **Then**

'code if the Elseif condition3 is met

.  
.

#### **Elseif** CONDITIONn **Then**

'code if the Elseif condition n is met

**Else**

'code if none of the above conditions are True

**End If**

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If...Then...Elseif is used when we need to evaluate 2 or more conditions. VBA evaluates the conditions from **If** to **End If**, and where the condition becomes True for the first time, the code under that specific block is executed and the control transfers to **End If**. If none of the conditions are True then code under **Else** block is executed and control transfers to **End If**. Note that the Else block in the syntax is optional.

## Select...Case

Select Case structure is used to test for the True evaluation of a particular condition or set of conditions. You can have as many Case statements as you want, and only the code associated with the first Case that evaluated to True will be executed . This can be used to replace the multiple Else If structure.

### Syntax

**Select Case** Expression

**Case** VALUE1

' code to run if Expression equals Value1

**Case** VALUE2

' code to run if Expression equals Value2

.

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**Case** VALUEn

" code to run if Expression equals Valuen

**Case Else**

'code to run for remaining cases

**End Select**

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## Input Boxes:

We use an Input Box when we need the user to input a value. An Input Box looks like similar to a message box, with the prompted text that tells the user what to do, OK and Cancel buttons (which cannot be reconfigured as a message box's buttons can), and an optional title argument. An Input Box requires a prompt argument, and it provides a field wherein the user would enter the kind of information as needed for the macro to continue.



**DEMO**

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## Message Boxes:

Up to now you have seen many examples of code that include a message box. In all those examples, the message box is a simple pop-up box that displayed an informational text message, with an OK button for you to acknowledge the information.

However, Message boxes are flexible tools that allow you to customize the buttons while asking questions directly to the users that will force them to select one option or the other. Instead of OK, you can display a **Yes** button and a **No** button on your message box, and write the code that will be followed if the user clicks Yes, or the user clicks No.





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## Message Box buttons Return Value

Constant	Value
OK	1
Cancel	2
Abort	3
Retry	4
Ignore	5
Yes	6
No	7

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# Thank You

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