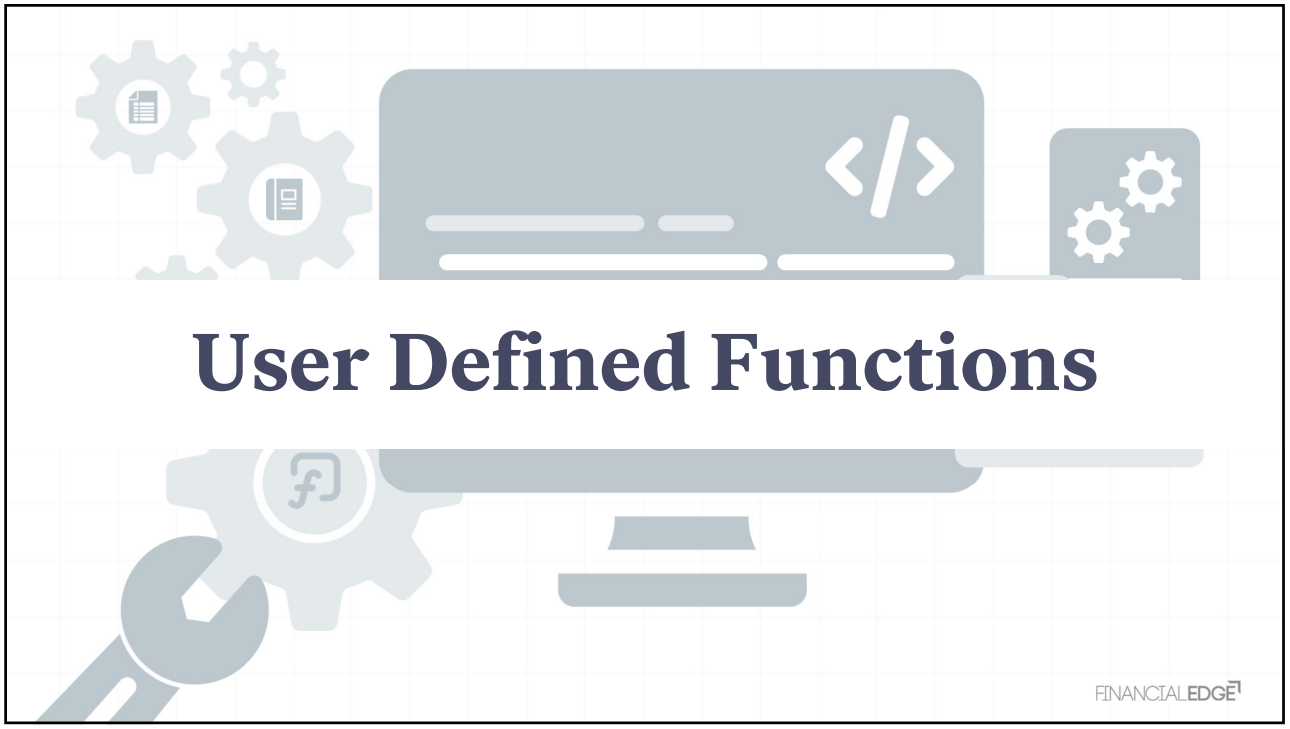




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In order to fully **exploit the capabilities of Excel VBA**, there are additional areas of **functionality** we must understand...



Bespoke Functions



Excel's Events



Arrays

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A **function** is a **VBA procedure** that **performs calculations** and **returns** a **value**



Pre-defined functions

These functions will **satisfy our requirements** in most circumstances



Custom functions

Saves time when **performing regular tasks** that Excel cannot directly facilitate

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Creating a **function** is very similar to **writing a sub procedure**

Function

```
Function Name (argument1, argument2,..) As Data Type
    Instructions
    Name = expression
End function
```

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User Defined Functions

A **function** is a **VBA procedure** that **performs calculations** and **returns** a **value**

Function

```
Function Name (argument1, argument2,..) As Data Type
    Instructions
    Name = expression
End function
```



Arguments can be **variables**, **constants** or **expression**



The **function** does **not** have to have **any arguments**

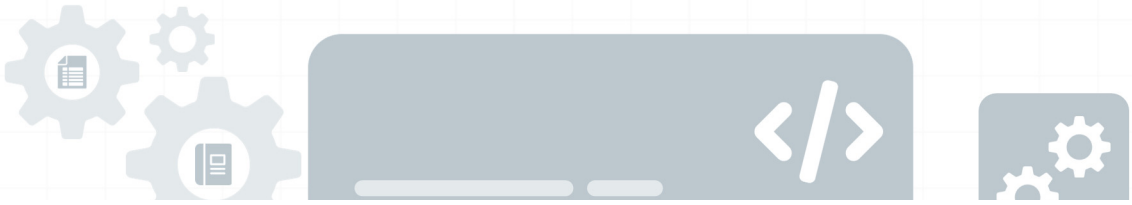
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Functions Categories

Category number	Category name
0	All (no specific category)
1	Financial
2	Date & Time
3	Math & Trig
4	Statistical
5	Lookup & Reference
6	Database
7	Text
8	Logical
9	Information
14	User Defined

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Workbook and Worksheet Events



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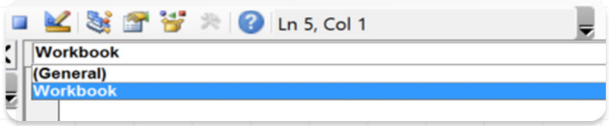
Events are actions performed by users in Excel, such as **opening a workbook** or **double clicking a cell**

- Workbook events
- Worksheet events
- Chart events
- Application events
- UserForm events
- Events not associated with objects

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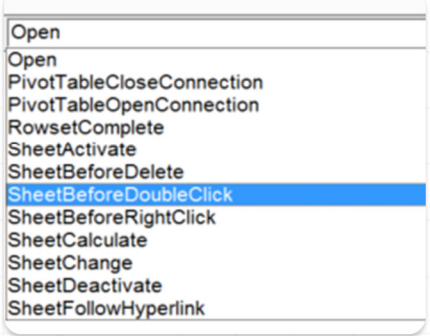
Workbook Events

Access the **events linked to a workbook** by double clicking **ThisWorkbook** and using the **drop-down menus** at the top of the code window



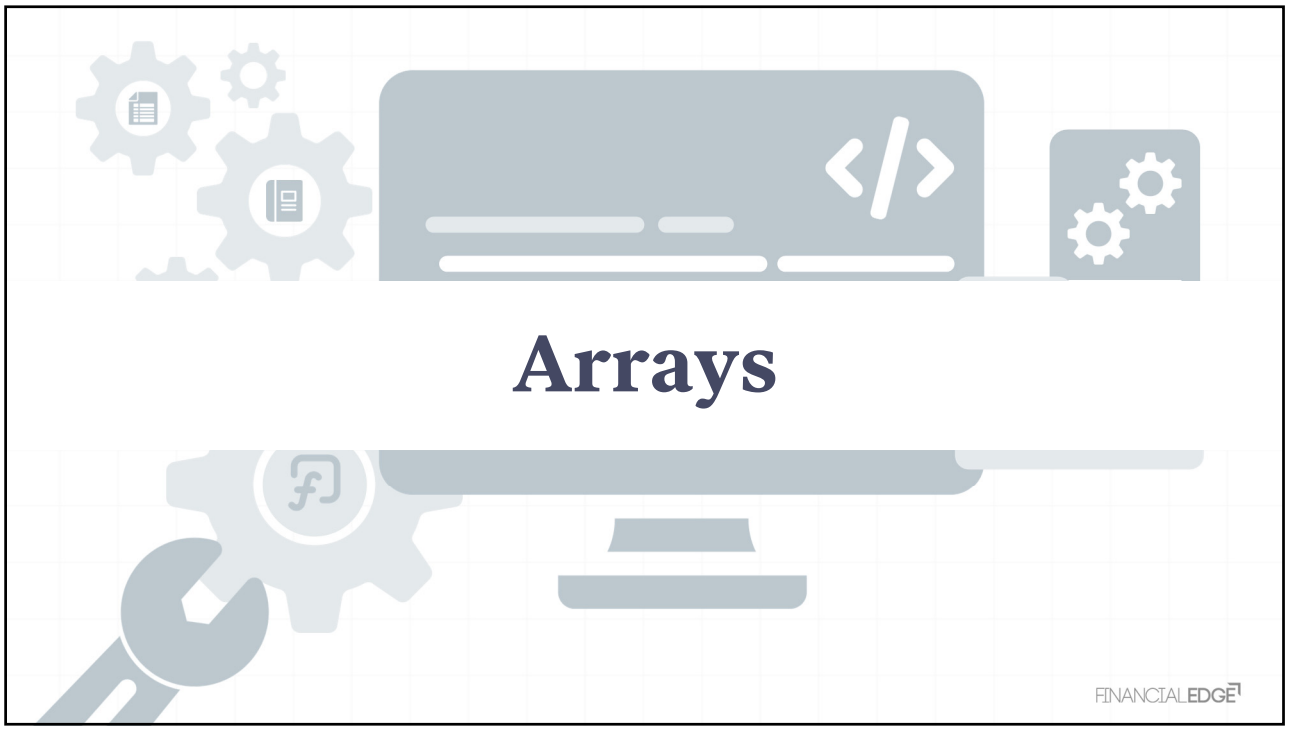
Worksheet Events

To **access worksheet events,** double click the worksheet and use the **drop-down menus** at the top of the code window



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An **array** is a **set** of **indexed variables** of a **single type**

Excel VBA arrays can have up to **60 dimensions**

In **practice 3 dimensions** are the **maximum** that you are likely to use

Arrays are useful for **holding and processing large data sets**

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An **array** is a **set** of **indexed variables** of a **single type**

1 dimensional array

```
Dim Company(1 To 3) As String
```

Space in the **memory** for **3 string elements**

2 dimensional array

```
Dim Company(1 To 3, 1 To 2) As String
Dim Rw As Integer, Col As Integer
    For Rw = 1 To 3
        For Col = 1 To 2
```

Row index and **column index**

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