Master Microsoft Excel Macros and VBA

Project #4 – Using VBA to Automate Excel Formulas

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Course Reviews

+1 *"This is a great course. I love how the lessons are only about 4 minutes each.* ***It makes it possible to learn a lot in a short amount of time.*** *It seems targeted to new learners but it also makes for a great review even if you are familiar with Microsoft Office… 5 stars!" - Wendy*

+1 *"Great visual over the shoulder presentations by a very articulate instructor. The simple tips on Word and PowerPoint alone were well worth taking the course. What I learned will not only save time, but will end much of the frustration I have experienced with PDF's. Recommend the course." – Bill*

+1 *"These presentations are very well put together.* ***The instructor keeps you engaged and is easy to follow.*** *" - Karen*

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Project #4 - Overview

During this exercise you will create a custom VBA procedure that will find a range of cells dynamically in order to SUM that range of cells. The problem is that each sheet that you want to SUM the range of cells on can vary in the number of records to SUM. To fix this problem you will need to programmatically find the last cell in the Total Expense column so that you know where the range ends and where the calculation should go.

You will be creating 2 custom VBA procedures to automate the SUM function and loop the automation over several worksheets.

1. **AutoSum**: This procedure will dynamically find the range of cells to sum and build the calculation
2. **LoopSum**: This procedure will loop the AutoSum procedure through all the worksheets in the workbook

Finding and Building Dynamic Content with VBA

Below are a few techniques that you will be using in the **AutoSum** procedure.

Selection.End(xlDown).Select

Because you don't know how many records each worksheet has you need a way to find the last cell in the list. The line of code above will travel from an active cell, such as F2, traveling DOWN until it finds the last cell that contains a value. This will assist you in finding that last cell in the range to SUM.

ActiveCell.Address

Once the last cell in the range has been located you then need to get the Address of that cell to include in the formula that will SUM the range. The line of code above will return the address of the active cell (ex. F15). This can be stored in a variable that can then be used at a later time to build the formula.

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There will be many times in your Excel VBA procedures where you will need to combine multiple String/Text values together. In Excel VBA you can use the Plus Symbol (+) to combine multiple values together.

=SUM(F2:" + lastCell + ")"

Level Up by doing it yourself!

Your co-workers are excited about all the time you have saved them with the previous macros that they now would like you add a macro that loops through all the division worksheets and SUMs up the Total Expense column. Because this will need to loop through multiple worksheets you decide to write your own custom VBA procedure to accomplish this.

1. Download and open the file: **AutomateSumFunction.xlsx** provided in this lecture
2. Note the 4 worksheets in the workbook
    a. Each worksheet contains a Total Expense column
    b. 2 worksheets have 15 records the other 2 contain 16 records
3. Open the Visual Basic Editor (***ALT+F11***)
4. Add a new **MODULE**

   a. **INSERT – MODULE**
5. Add a New **PROCEDURE**
   a. **INSERT – PROCEDURE**
   b. Name the procedure **AutoSum**
   c. Leave the other settings as default
6. Add the following code to the new procedure

```
Dim lastCell As String

Range("F2").Select

Selection.End(xlDown).Select
lastCell = ActiveCell.Address

ActiveCell.Offset(1, 0).Select
ActiveCell.Value = "=sum(F2:" + lastCell + ")"
```

Now you will create a 2nd procedure that will loop the AutoSum procedure through each worksheet in the workbook

1. Insert a new **PROCEDURE**
   a. **INSERT – PROCEDURE**
   b. Name the procedure **LoopSum**
   c. Leave the other settings as default
2. Add the following code to the new procedure

```
Dim i As Integer

For i = 1 To Worksheets.Count
    Worksheets(i).Select
    AutoSum
Next i
```

3. Close the **VBE** window
4. Run the **LoopSum** procedure
   a. Go to **VIEW – MACROS – VIEW MACROS**
   b. Select the **LoopSum** Macro
   c. Click **RUN**

Instructor BIO:

Kyle is a Microsoft Certified Trainer (MCT) and a certified Microsoft Office Master Instructor and has been teaching and consulting for the past 10+ years on various computer applications, including;

1. Microsoft Office Suite 1997, 2000, XP, 2003, 2007, 2010, 2013
    1. Excel, Word, PowerPoint, Outlook, Access and Visio
2. SharePoint End-User 2007, 2010, 2013
3. VBA (Excel and Access)
4. Adobe Suite
    1. Photoshop, Illustrator, InDesign
5. Maya (Modeling and Animation)
6. Unity3d (Game Design)
7. HTML, CSS and JavaScript
8. Crystal Reports

Kyle is a graduate of the San Francisco Art Institute in the Media Arts and Animation Program. He has worked as a Game Designer for Electronic Arts, designing on games such as Nerf N-Strike, Nerf N-Strike Elite, both for the Wii, and a Sims 3 Expansion Pack for the PC.

Kyle has facilitated courses that range from 1-on-1 interactions to large scale groups of 100+ participants, including; live in person classes, webinar style classes online and live online full courses. He is consistently ranked top in reviews for each of the courses he teaches.

What Students have said about Kyle:

- ***"Kyle was off the chart "GOOD""***
- ***"ONE OF THE BEST COURSES THAT I'VE HAD... (IN 12+ YEARS)."***
- ***"Awesome trainer because I'm computer "stupid" and he helped me understand it."***
- ***"Kyle Pew is very knowledgeable and presented information with exceptional skill."***

In his 10+ years of training (corporate training, 1-on-1 consulting and college courses), Kyle has taught 1000's of courses and 10's of thousands of students all the while maintaining a high level of delivery and satisfaction from the student he has taught.

Teaching Philosophy:

Kyle believes that student's best learn through the application of real-life business situations through exercises. Allowing students to guide the class with their specific situations allows for the quickest and easiest adaptation to new technology and skills.

Check out my Udemy profile for more information and more courses.
https://www.udemy.com/user/kyle-pew/