Print Info

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Excel 2021 In Practice - Ch 8 Guided Project 8-1

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Guided Project 8-1

Boyd Logistics is developing a template with macros. To complete the template you record macros, assign them to *Button* form controls, edit VBA code, and create a macro-enabled workbook.

[Student Learning Outcomes 8.1, 8.2, 8.3, 8.4, 8.5]

File Needed: ***BoydLogistics-08.xlsx*** *(Available from the* Start File *link.)*

Completed Project File Name: ***[your name]-BoydLogistics-08.xlsx***

Skills Covered in This Project

- Set macro security options.
- Save a macro-enabled template.
- Record a VBA macro.
- Record a macro with relative references.
- Record a macro with absolute references.
- Run VBA macros.
- Assign macros to *Button* form controls.
- Edit a macro in the Visual Basic Editor.

Steps to complete This Project

Mark the steps as checked when you complete them.

1. ☐ Open the ***BoydLogistics-08.xlsx*** start file. The file will be renamed automatically to include your name. Change the project file name if directed to do so by your instructor, and save it.
2. Set macro security and display the *Developer* tab.
   a. ☐ Click the **Excel Menu** and click **Preferences**.
   b. ☐ Click the **Security** button under *Sharing and Privacy* in the *Excel Preferences*.
   c. ☐ Verify or select **Disable all macros with notification** and click **the back arrow**.
   d. ☐ Click **Ribbon & Toolbar** under *Authoring*, display the *Developer* tab, and click **Save**. Close Excel *Preferences*.
3. Save the workbook as a macro-enabled template.
   a. ☐ Choose **Save As** from the *File* menu.
   b. ☐ Choose **Excel Macro-Enabled Template** in the *File Format* list. [**Figure 8-37**]
   c. ☐Click **Save**.
4. Record a macro with relative references to date stamp the sheet.
   a. ☐ Click the **Use Relative References** button [*Developer* tab, *Code* group] to enable the command.
   b. ☐Select cell **H1**.
   c. ☐ Click the **Record Macro** button [*Developer* tab, *Code* group].

d. ☐ Type DateStamp in the *Macro name* box. You will not use a shortcut because you will assign the macro to a button.

e. ☐ Verify or choose **This Workbook** in the *Store macro in* box.

f. ☐ Click the **Description** box, type Insert date text, and click **OK**.

g. ☐ Type =to, select *TODAY*, and press **Enter**. This inserts today's date in cell H1 and moves the insertion point to cell H2.

h. ☐ Press the **up arrow** one time and press **command+C**. This copies today's date to the *Clipboard*.

i. ☐ Press **command+V** to paste the date in cell H1. This displays the **Paste Options** button (**Figure 8-38**).

j. ☐ Click the **Paste Options** button and choose **Paste Values**. This pastes the date as text and replaces *=TODAY()*. The date is no longer volatile.

k. ☐ Press **Esc** to remove the moving border.

l. ☐ Click the **Stop Recording** button to the right of the *Ready* indicator in the *Status* bar. The ScreenTip for the button is *A macro is currently recording. Click to stop recording.*

m. ☐ Click the **Use Relative References** button [*Developer* tab, *Code* group] to disable the command.

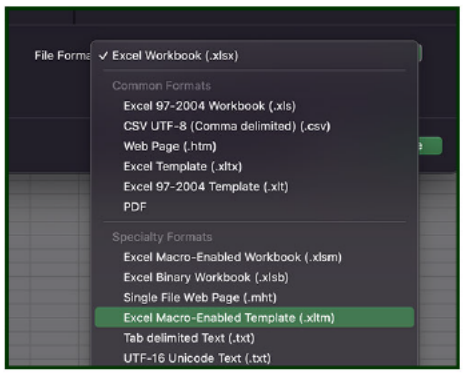


Figure 8-37 MAC Macro-Enabled Template

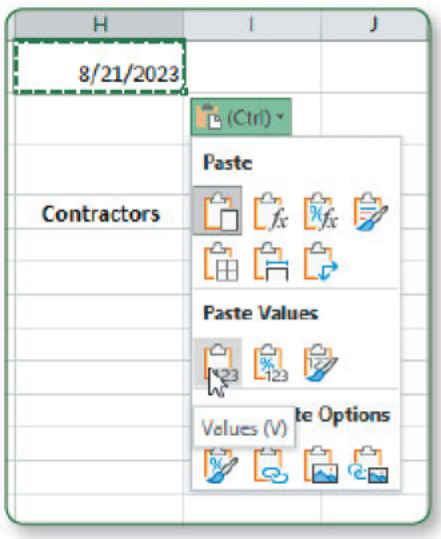


Figure 8-38 Paste values to replace *TODAY*

5. Test the macro.

a. ☐ Delete the contents of cell **H1** and select cell **H2**.

b. ☐ Click the **Macros** button [*Developer* tab, *Code* group].

c. ☐ Select **DateStamp** and click **Run**. Today's date is entered as text in cell H2.

d. ☐ Delete the contents of cell **H2**.

6. Record a macro with absolute references to display unique contractor names.

a. ☐ Confirm that the *Use Relative References* button [*Developer* tab, *Code* group] is **not** active.

b. ☐ Click the **Record Macro** button [*Developer* tab, *Code* group].

c. ☐ Type SortUnique in the *Macro name* box. You will use *SORT* and *UNIQUE* from the *Lookup & Reference* category.

d. ☐ Do not use a shortcut key.

e. ☐ Verify or choose **This Workbook** in the *Store macro in* box.

f. ☐ Click the **Description** box, type Display contractors for this period, and click **OK**.

g. ☐ Select cell **I5**. This is the first code in your macro—to select cell I5.

h. ☐ Click the **Lookup & Reference** button [*Formulas* tab, *Function Library* group] and select **SORT**. The *Array* argument is a nested *UNIQUE* function.

i. ☐ Click the **Name Box** arrow, choose **More Functions**, and find and select **UNIQUE** in the *Lookup & Reference* category.

j. ☐ Confirm that the *Function Arguments* dialog box is for *UNIQUE* and select cells **B5:B32**. The structured reference name *Table1[Contractor]* is substituted.

k. ☐ Click **SORT** in the *Formula* bar and click the **Insert Function** button to return to it in the *Formula Builder* (**Figure 8-39**).

l. ☐ Click **Done**.

m. ☐ Click the **Stop Recording** button to the right of the *Ready* indicator in the *Status* bar.

7. Test the macro.

a. ☐ Select cell **I5** and press **Delete**. *SORT* and *UNIQUE* are dynamic array formulas, and the function is in the first cell of the array.

b. ☐ Select cell **A3**.

c. ☐ Click the **Macros** button [*Developer* tab, *Code* group], select **SortUnique**, and click **Run**. The macro runs in cell I5 as recorded.

d. ☐ Select cell **I5** and delete the contents. Close the *Formula Builder* if you have not already closed it.

8. Assign macros to *Button* form controls.

a. ☐ Click the **Developer** tab if it is not already active.

b. ☐ Click the **Button (Form Control)** command in the *Controls* category and click cell **J2**.

c. ☐ Select **DateStamp** in the *Assign Macro* dialog box and click **OK**.

d. ☐ Double-click the *Button* control to **edit the button text**.

e. ☐ Delete the default text and type Stamp Date as the label.

f. ☐ Click cell **H1** to deselect the control.

g. ☐ Click the **Button (Form Control)** command [*Controls* group], and click cell **J5**.

h. ☐ Assign the **SortUnique** macro and edit the caption to Contractors.

9. Size and align *Button* form controls.

a. ☐ Right-click the **Stamp Date** button.

b. ☐ Press **command** and right-click the **Contractors** control. Both controls are selected.

c. ☐ Click the **Align** button [*Shape Format* tab, *Arrange* group] and select **Align Left**.

d. ☐ Click the **Height** box [*Shape Format* tab, *Size* group] and type 0.45.

e. ☐ Set the **Width** box [*Shape Format* tab, *Size* group] to 1.25.

f. ☐ While both controls are selected, drag them so that the top-left corner of the **Stamp Date** control is in cell J2 (Figure 8-40).

g. ☐ Click cell **H1** to deselect the controls.

10. Edit a VBA macro.

a. ☐ Right-click the **Contractors** button and click the **Visual Basic** button [*Developer* tab, *Code* group].

b. ☐ Display the *Project Explorer* window if necessary.

c. ☐ Display the *Code* window, if necessary. Your macro should be in *Module1*. You can double-click *Module1* in the pane on the left to open the *Code* window.

d. ☐ Edit the code line in the **SortUnique** macro to select cell **H5** instead of *I5* (Figure 8-41).

e. ☐ Close the *Microsoft Visual Basic* window and return to the worksheet.

11. Document the macros.

a. ☐ Select the **Documentation** sheet tab.

b. ☐ Select cell **A3** and type Name Figure 8-42.

c. ☐ Type Purpose in cell **B3**.

d. ☐ Starting in cell **A4**, type DateStamp. Press **Tab** or right arrow to move to cell **B4**, and type Insert the current date as text. Press **down arrow** to move to cell **B5** and type Assigned to the Stamp Date button.

e. ☐ In cell **A7**, type SortUnique. Press **Tab** or right arrow to move to cell **B7**, and type Display the names of contractors. Press **down arrow** to move to cell **B8** and type Assigned to the Contractors button.

f. ☐ Apply **All Borders** to cells **A3:B8**.

g. ☐ Size columns **A:B** so that all text is showing (Figure 8-42).

h. ☐ Apply **bold** formatting to cells **A3:B3** and apply **Center** alignment to the cells.

12. Delete sample data and save the template.

a. ☐ Select the **Stats** sheet tab.

b. ☐ Select and delete cells **A5:F32**.

c. ☐ Point to the table resize arrow in cell **F32** and drag up to size the table to end at cell **F7**. This leaves three blank rows in the template but the table will expand as needed when data is entered.

d. ☐ Select cells **A8:F32** and clear the formats (Figure 8-43).

e. ☐ Select cell **A5**.

f. ☐ Click **Save** on the title bar to save your template.

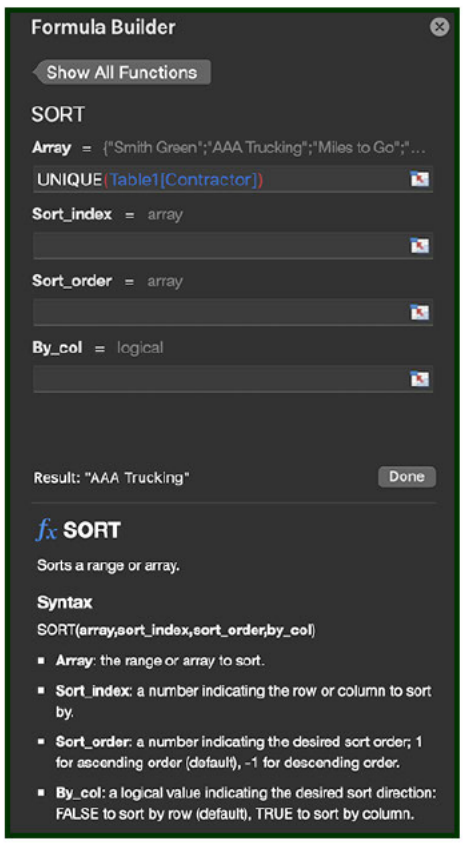


Figure 8-39 MAC Mac Nested SORT and UNIQUE in macro

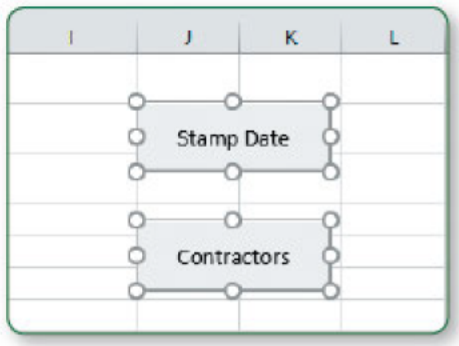


Figure 8-40 Button controls aligned and sized

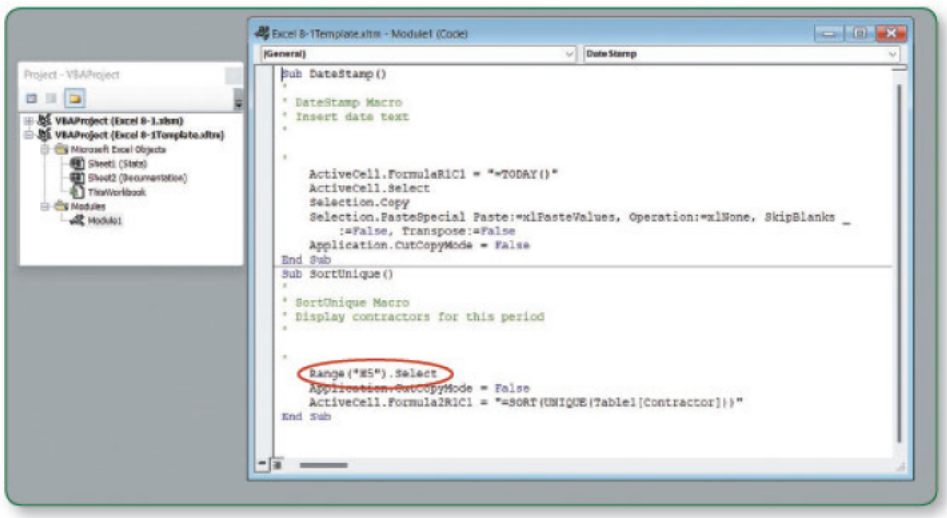
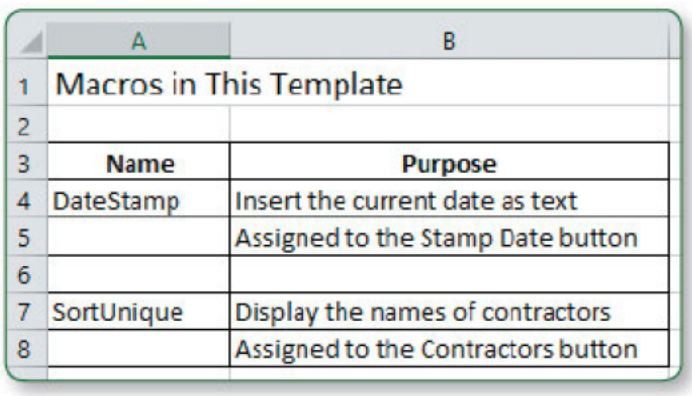


Figure 8-41 Edited macro code



	A	B
1	Macros in This Template	
2		
3	**Name**	**Purpose**
4	DateStamp	Insert the current date as text
5		Assigned to the Stamp Date button
6		
7	SortUnique	Display the names of contractors
8		Assigned to the Contractors button

Figure 8-42 Documentation for template

13. Enter three records as shown in Figure 8-44. After the third record, press **left arrow** five times to return the insertion point to cell **A7**. If you press *Enter* after the third record, a blank row is added to the table. If this happens, click the **Undo** button to remove the blank row. (If you use the *TODAY* function in cell A5, the table automatically completes the column. Click the *AutoCorrect Options* button and undo the task.)

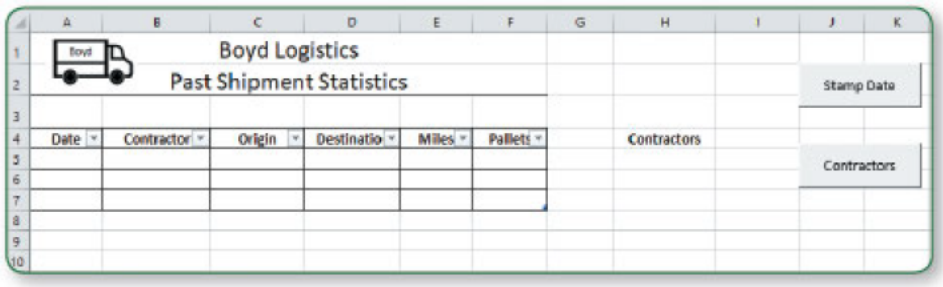


Figure 8-43 Resized table

	A	B	C	D	E	F
5	Type today's date	Smith Green	Minneapolis	Omaha	380	90
6	Type tomorrow's date	AAA Trucking	Chicago	Minneapolis	410	87
7	Type yesterday's date	Miles to Go	St. Louis	Fargo	795	85

Figure 8-44 Data for workbook

a. ☐ Type the record in **row 5** starting in cell **A5**: Type today's date; Smith Green; Minneapolis; Omaha; 380; 90

b. ☐ Type the record in **row 6** starting in cell **A6**: Type tomorrow's date; AAA Trucking; Chicago; Minneapolis; 410; 87

c. ☐ Type the record in **row 7** starting in cell **A7**: Type yesterday's date; Miles to Go; St. Louis; Fargo; 795; 85

14. Run macros in the template.

a. ☐ Select cell **H2** and click the **Stamp Date** button control.

b. ☐ Select cell **H5** and click the **Contractors** button control.

c. ☐ Select cell **F7** and press **Tab**. A new row displays and calculates in the contractor's list as 0.

d. ☐ Enter the record shown here starting in cell **A8** and press **left arrow** after the last value. Note that the *Contractors* list in column H updates as you complete the entry.

Type today's date Neena Brothers Milwaukee Kansas City 565 69

15. ☐ Select cell **A5** and save your downloaded start file as an **Excel Workbook (*.xlsx)** for grading in *SIMnet*. Navigate to where you would save your project files to save your completed file. Click **Yes** in the message box saying "The following features cannot be saved in macro-free workbooks: VB project".

16. ☐ Hide the *Developer* tab if instructed to do so.

17. ☐ Save and close the workbook (Figure 8-45).

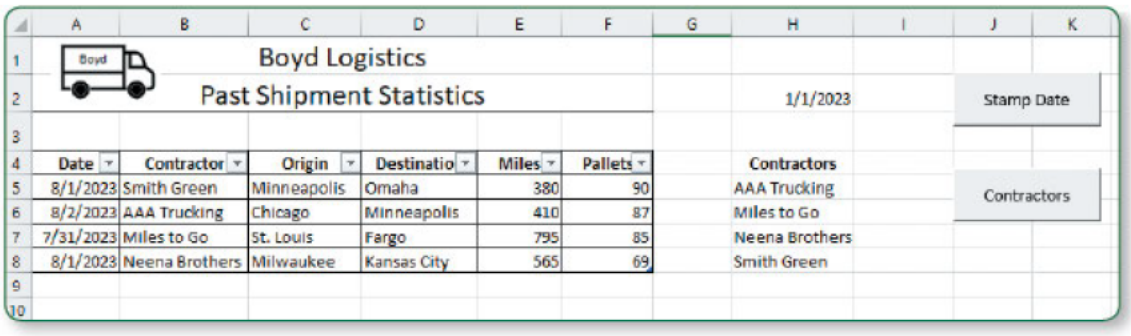


Figure 8-45 Excel 8-1 completed

18. ☐ Upload and save your **Excel Workbook (*.xlsx)** project file.

19. ☐ Submit file for grading.