Microsoft®
Excel 2019 Advanced
Quick Reference Card

TOBIN SOLUTIONS

PivotTable Elements

PivotTable Fields Pane

Active PivotTable

Fields Pane Options

Tools Menu
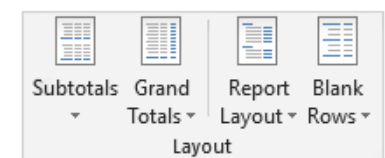
Field List

PivotTable Field Areas

PivotTable Layout

PivotTable Fields Pane

The PivotTable Fields pane controls how data is represented in the PivotTable. Click anywhere in the PivotTable to activate the pane. It includes a Search field, a scrolling list of fields (these are the column headings in the data range used to create the PivotTable), and four areas in which fields are placed. These four areas include:

- **Filters:** If a field is placed in the Filters area, a menu appears above the PivotTable. Each unique value from the field is an item in the menu, which can be used to filter PivotTable data.

- **Column Labels:** The unique values for the fields placed in the Columns area appear as column headings along the top of the PivotTable.

- **Row Labels:** The unique values for the fields placed in the Rows area appear as row headings along the left side of the PivotTable.

- **Values:** The values are the "meat" of the PivotTable, or the actual data that's calculated for the fields placed in the rows and/or columns area. Values are most often numeric calculations.

Not all PivotTables will have a field in each area, and sometimes there will be multiple fields in a single area.

PivotTables

Create a PivotTable: Select the data range to be used by the PivotTable. Click the **Insert** tab on the ribbon and click the **PivotTable** button in the Tables group. Verify the range and click **OK**.

Add Multiple PivotTable Fields: Click a field in the field list and drag it to one of the four PivotTable areas that contains one or more fields.

Filter PivotTables: Click and drag a field from the field list into the Filters area. Click the field's list arrow above the PivotTable and select the value(s) you want to filter.

Group PivotTable Values: Select a cell in the PivotTable that contains a value you want to group by. Click the **Analyze** tab on the ribbon and click the **Group Field** button. Specify how the PivotTable should be grouped and click **OK**.

Refresh a PivotTable: With the PivotTable selected, click the **Analyze** tab on the ribbon. Click the **Refresh** button in the Data group.

Format a PivotTable: With the PivotTable selected, use the options on the Design tab to adjust the PivotTable styles and style options.

PivotCharts

Create a PivotChart: Click any cell in a PivotTable and click the **Analyze** tab on the ribbon. Click the **PivotChart** button in the Tools group. Select a PivotChart type and click **OK**.

Modify PivotChart Data: Drag fields into and out of the field areas in the task pane.

Refresh a PivotChart: With the PivotChart selected, click the **Analyze** tab on the ribbon. Click the **Refresh** button in the Data group.

Modify PivotChart Elements: With the PivotChart selected, click the **Design** tab on the ribbon. Click the **Add Chart Element** button in the Chart Elements group and select the item(s) you want to add to the chart.

Apply a PivotChart Style: Select the PivotChart and click the **Design** tab on the ribbon. Select a style from the gallery in the Chart Styles group.

Update the Chart Type: With the PivotChart selected, click the **Design** tab on the ribbon. Click the **Change Chart Type** button in the Type group. Select a new chart type and click **OK**.

Enable PivotChart Drill Down: Click the **Analyze** tab. Click the **Field Buttons** list arrow in the Show/Hide group and select **Show Expand/Collapse Entire Field Buttons**.

The Layout Group

Subtotals: Show or hide subtotals and specify their location in the PivotTable.

Grand Totals: Add or remove grand total rows for columns and/or rows.

Report Layout: Adjust the report layout to show in compact, outline, or tabular form.

Blank Rows: Emphasize groups of data by manually adding blank rows between grouped items.

Macros

Enable the Developer Tab: Click the **File** tab and select **Options**. Select **Customize Ribbon** at the left. Check the **Developer** check box and click **OK**.

Macro Naming Rules:

- The first character must be a letter.
- Only letters, numbers, and underscores are accepted.
- Spaces, periods, and special characters are not allowed.
- The name can't exceed 255 characters; it's best practice to keep it under 25.

Record a Macro: Click the **Developer** tab on the ribbon and click the **Record Macro** 🔴 button. Type a name, description and specify where to save it. Click **OK**. Complete the steps to be recorded. Click the **Stop Recording** ⬛ button on the Developer tab.

Run a Macro: Click the **Developer** tab on the ribbon and click the **Macros** 🔲 button. Select the macro and click **Run**.

Edit a Macro: Click the **Developer** tab on the ribbon and click the **Macros** 🔲 button. Select a macro and click the **Edit** button. Make the necessary changes to the Visual Basic code and click the **Save** button.

Delete a Macro: Click the **Developer** tab on the ribbon and click the **Macros** 🔲 button. Select a macro and click the **Delete** button.

Macro Security: Click the **Developer** tab on the ribbon and click the **Macro Security** ⚠️ button. Select a security level and click **OK**.

Troubleshoot Formulas

Common Formula Errors:

- **###### -** The column isn't wide enough to display all cell data.
- **#NAME? -** The text in the formula isn't recognized.
- **#VALUE! -** There is an error with one or more formula arguments.
- **#DIV/0 -** The formula is trying to divide a value by 0.
- **#REF! -** The formula references a cell that no longer exists.

Trace Precedents: Click the cell containing the value you want to trace and click the **Formulas** tab on the ribbon. Click the **Trace Precedents** 🔳 button to see which cells affect the value in the selected cell.

Jan	Feb	Total
6,010	7,010	13,020

Error Checking: Select a cell containing an error. Click the **Formulas** tab on the ribbon and click the **Error Checking** ⚠️ button in the Formula Auditing group. Use the dialog to locate and fix the error.

Troubleshoot Formulas

The Watch Window: Select the cell you want to watch. Click the **Formulas** tab on the ribbon and click the **Watch Window** 🖥️ button. Click the **Add Watch** 🔳 button. Ensure the correct cell is identified and click **Add**.

Evaluate a Formula: Select a cell with a formula to evaluate. Click the **Formulas** tab on the ribbon and click the **Evaluate Formula** ⓕ button. Click the **Evaluate** button as many times as required to locate the error.

Advanced Formatting

Customize Conditional Formatting: Click the **Conditional Formatting** button on the Home tab and select **New Rule** in the menu. Select a rule type and then edit the styles and values. Click **OK**.

Edit a Conditional Formatting Rule: Click the **Conditional Formatting** 🔳 button on the Home tab and select **Manage Rules**. Select the rule you want to edit and click **Edit Rule**. Make your changes to the rule. Click **OK**.

Change the Order of Conditional Formatting Rules: Click the **Conditional Formatting** 🔳 button on the Home tab and select **Manage Rules**. Select the rule you want to re-sequence. Click the **Move Up** ▲ or **Move Down** ▼ arrow until the rule is positioned correctly. Click **OK**.

International Number Formats: Select the cell(s) you want to format. Click the **Number** group's dialog box launcher ⌐ on the Home tab. Select **Currency** or **Accounting** and modify the symbol. Or, select **Date** or **Time** and update the Locale. Click **OK.**

Customize Workbook Themes: Click the **Page Layout** tab. Apply the desired theme colors, fonts, and effects. Click the **Themes** 🅰️ button and select **Save Current Theme**. Enter a name for the custom theme and click **Save**.

Insert Form Controls: Click the **Developer** tab on the ribbon. Click the **Insert** 🖥️ button in the Controls group and select a form control. Click and drag to place the form control. Right-click the form control and select **Format Control**. Modify the form control settings and click **OK**.

Advanced Formulas

Formula Calculation Options: Click the **Formulas** tab on the ribbon. Click the **Calculation Options** 🔲 button in the Calculation group and select a calculation option:

- **Automatic:** Calculates a formula instantly when entered in a sheet.
- **Automatic Except for Data Tables**: Calculates a formula in a sheet instantly. Data tables are only calculated when a change is made.
- **Manual:** Only calculates a formula when manually prompted.

Advanced Formulas

Nested Functions: A nested function is when one function is tucked inside another function as one of its arguments. It looks like this:

$$=IF(D2>AVERAGE(B2:B10),\text{"Yes"},\text{"No"})$$

| Initial Function | Nested Function | Result If 'True' | Result If 'False' |

The Vlookup Function: The Vlookup function **=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])** looks for a value you specify in the first column of data and then returns a value in the same row from a column you specify.

	A	B	C	D	E
1				**Agent Sales**	
2				5	7367
3					
4	**Agent ID**	**First**	**Last**	**Packages**	**Sales**
5	1	Joel	Nelson	6	6,602
6	2	Louis	Hay	7	8,246
7	3	Anton	Baril	11	13,683
8	4	Caroline	Jolie	12	14,108
9	5	Daniel	Ruiz		7,367

Logical Functions: Use a logical function such as And, Or, or Not when you want to carry out more than one comparison in a formula.

The Sumif and Averageif Functions: Use the Sumif and Averageif functions when you only want to find a sum or average if a certain condition is met. A different result will be generated if the condition is not met.

The Index and Match Functions: The Index and Max functions combine to form a function more powerful than Vlookup. They allow you to return any value in a range based on vertical and horizontal criteria. The syntax looks like this: =INDEX(range, MATCH(lookup_value, lookup_range, match_type)).

Analyze Data

Goal Seek: Click the **Data** tab on the ribbon. Click the **What-If Analysis** 🔳 button and select **Goal Seek**. Specify the desired value for the given cell and which cell can be changed to reach the desired result. Click **OK**.

Scenario Manger: Click the **Data** tab on the ribbon. Click the **What-If Analysis** 🔳 button and select **Scenario Manager**. Click the **Add** button. Give the scenario a name and specify which cells can change to reach the desired result. Click **OK**. If desired, add additional scenarios to view other possible results.

Consolidate Data: Select a cell in the spreadsheet where you want to place the consolidated data. Click the **Data** tab on the ribbon and click the **Consolidate Data** 🔳 button. Select the function you want to perform on the consolidated data using the Function list. Type a cell range into the Reference field for a set of cells to include in the consolidation. Click **Add**. Include additional references for all the data ranges you wish to consolidate. Click **OK**.