

Get started with data calculations

Pivot...pivot...pivot...

- Video: Start working with pivot tables 7 min
- Video: Pivot tables continued 5 min

- Reading: Elements of a pivot table 10 min

- Reading: Using pivot tables in analysis 10 min

- Practice Quiz: Hands-On Activity: Explore movie data with pivot tables 2 questions

- Practice Quiz: Test your knowledge on using pivot tables 3 questions

Learn more SQL calculations

The data-validation process

Using SQL with temporary tables

Weekly challenge 4

Course challenge

Elements of a pivot table

Previously, you learned that a pivot table is a tool used to sort, reorganize, group, count, total, or average data in spreadsheets. In this reading, you will learn more about the parts of a pivot table and how data analysts use them to summarize data and answer questions about their data.

Pivot tables make it possible to view data in multiple ways in order to identify insights and trends. They can help you quickly make sense of larger data sets by comparing metrics, performing calculations, and generating reports. They're also useful for answering specific questions about your data.

A pivot table has four basic parts: rows, columns, values, and filters.

Rows

Add

Columns

Add

Values

Add

Filters

Add

The **rows** of a pivot table organize and group data you select horizontally. For example, in the [Working with pivot tables](#) video, the Release Date values were used to create rows that grouped the data by year.

Release Date - Year
2012
2013
2014
2015
2016

The **columns** organize and display values from your data vertically. Similar to rows, columns can be pulled directly from the data set or created using **values**. **Values** are used to calculate and count data. This is where you input the variables you want to measure. This is also how you create calculated fields in your pivot table. As a refresher, a **calculated field** is a new field within a pivot table that carries out certain calculations based on the values of other fields

In the previous movie data example, the Values editor created columns for the pivot table, including the SUM of Box Office Revenue, the AVERAGE of Box Office Revenue, and the COUNT of Box Office Revenue columns.

SUM of Box Office Revenue (\$)	AVERAGE of Box Office Revenue (\$)	COUNT of Box Office Revenue (\$)
\$18,078,040,000.00	\$170,547,547.17	106
\$13,672,800,000.00	\$160,856,470.59	85
\$20,013,420,000.00	\$168,180,000.00	119
\$13,521,310,000.00	\$109,042,822.58	124
\$11,921,900,000.00	\$161,106,756.76	74
\$77,207,470,000.00	\$151,983,208.66	508

Finally, the **filters** section of a pivot table enables you to apply filters based on specific criteria — just like filters in regular spreadsheets! For example, a filter was added to the movie data pivot table so that it only included movies that generated less than \$10 million in revenue.

Release Date - Year	SUM < \$10M	AVERAGE < \$10 M	COUNT < \$10 M
2012	\$18,078,040,000.00	\$170,547,547.17	106
2013	\$13,672,800,000.00	\$160,856,470.59	85
2014	\$20,013,420,000.00	\$168,180,000.00	119
2015	\$13,521,310,000.00	\$109,042,822.58	124
2016	\$11,921,900,000.00	\$161,106,756.76	74
Grand Total	\$77,207,470,000.00	\$151,983,208.66	508

Being able to use all four parts of the pivot table editor will allow you to compare different metrics from your data and execute calculations, which will help you gain valuable insights.

Using pivot tables for analysis

Pivot tables can be a useful tool for answering specific questions about a dataset so you can quickly share answers with stakeholders. For example, a data analyst working at a department store was asked to determine the total sales for each department and the number of products they each sold. They were also interested in knowing exactly which department generated the most revenue.

Instead of making changes to the original spreadsheet data, they used a pivot table to answer these questions and easily compare the sales revenue and number of products sold by each department.

Rows

Add

department

×

Order

Descending

Sort by

SUM of sales

Show totals

Columns

Add

Values as:

Columns

Add

price (SUM of sales)

×

Summarize by

SUM

Show as

Default

product_id

×

Summarize by

COUNTA

Show as

Default

They used the department as the rows for this pivot table to group and organize the rest of the sales data. Then, they input two values as columns: the SUM of sales and a count of the products sold. They also sorted the data by the SUM of sales column in order to determine which department generated the most revenue.

department	SUM of sales	COUNTA of product_id
Toys	\$3,045.95	49
Beauty	\$2,958.37	55
Movies	\$2,880.55	57
Tools	\$2,869.96	48
Games	\$2,785.80	49
Industrial	\$2,728.90	51
Jewelry	\$2,669.25	52
Health	\$2,613.56	48
Automotive	\$2,589.56	47
Garden	\$2,586.92	45
Sports	\$2,460.12	46
Grocery	\$2,459.22	44
Outdoors	\$2,399.48	47
Electronics	\$2,353.65	41
Books	\$2,313.01	42
Baby	\$2,272.77	46
Home	\$2,222.99	38
Computers	\$2,206.20	44
Kids	\$2,117.98	41
Shoes	\$2,108.33	39
Clothing	\$1,858.47	38
Music	\$1,809.36	33

Now they know that the Toys department generated the most revenue!

Pivot tables are an effective tool for data analysts working with spreadsheets because they highlight key insights from the spreadsheet data without having to make changes to the spreadsheet. Coming up, you will create your own pivot table to analyze data and identify trends that will be highly valuable to stakeholders.

Mark as completed

Like Dislike Report an issue