Tables

A table is a two-dimensional arrangement of data. You probably encounter tables regularly, as they are a common way of presenting data. Consider the following table of data of the top three car manufacturers (by total sales) in the first quarter of 2016:

Manufacturer	Sales (1000s)	Largest Market
VW Group	2,426	China
Toyota	2,178	Japan
Renault-Nissan	1,949	USA

You likely already know how to read this table, but let's define some common terminology to allow you to better refer to the elements of the table.

The table consists of horizontal *rows* and vertical *columns*. The first row of this particular table contains *headers* that give each column a name (Manufacturer, Sales, and Largest Market):

Manufacturer	Sales (1000s)	Largest Market

The next row is the first row of data within the table, telling us that the VW Group was the top car manufacturer with 2,426,000 cars sold in the first quarter of 2016. That row also tells us that the largest market for VW Group cars was China:

VW Group	2,426	China

The intersection of a row and column are called an *entry* or *field*. So, for example, the entry for the number of sales by Renault-Nissan contains the number 1,949.

Typically, the first column identifies the row in some unique way. In the example table here, the name of the Car Manufacturer clearly labels the content of each row, allowing you to immediately understand that the rest of the columns in that row are information relating to that car manufacturer.

Matrices

Mathematical matrices are quite similar to tables in that they hold two-dimensional data. In mathematics, a matrix always contains numbers and is typically displayed as follows:

$$\begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \\ 7 & 8 & 9 \\ 10 & 11 & 12 \end{bmatrix}$$

The above matrix is a 4×3 matrix, as it has 4 rows and 3 columns. Just as with tables, the rows are horizontal and the columns are vertical. Given that matrices only contain numbers, they do not have header rows or columns and simply contain the data. You need to understand what the rows and columns represent with information outside of the matrix itself.

Mark as completed