

## Viewing Specific Values

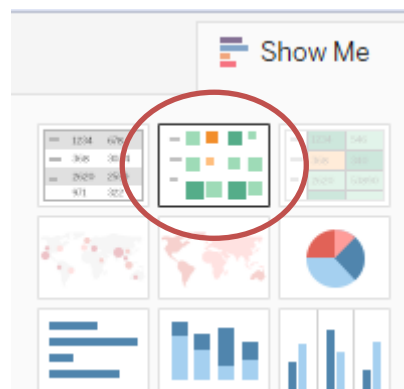
Tableau provides methods for using a number of different techniques to compare and highlight values. This workshop will introduce several of them.

## Creating Heat Maps

Tableau heat maps provide a colour-coded (and/or size-coded) way of representing tabular data. This can be done either using the **Show Me** menu or by building it from scratch.

### Create a heap map using Show Me

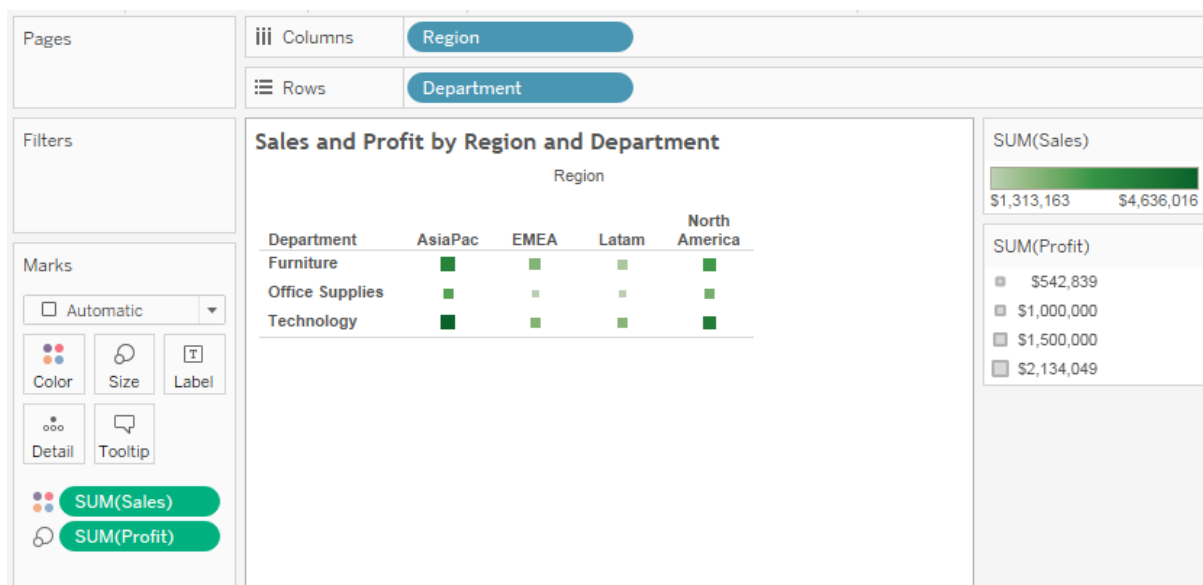
1. Select one or two measures and at least one dimension you want to compare, and click the heat map icon on the **Show Me** menu.



2. Use the **Marks** card to adjust the shape sizes and colour palette as desired.

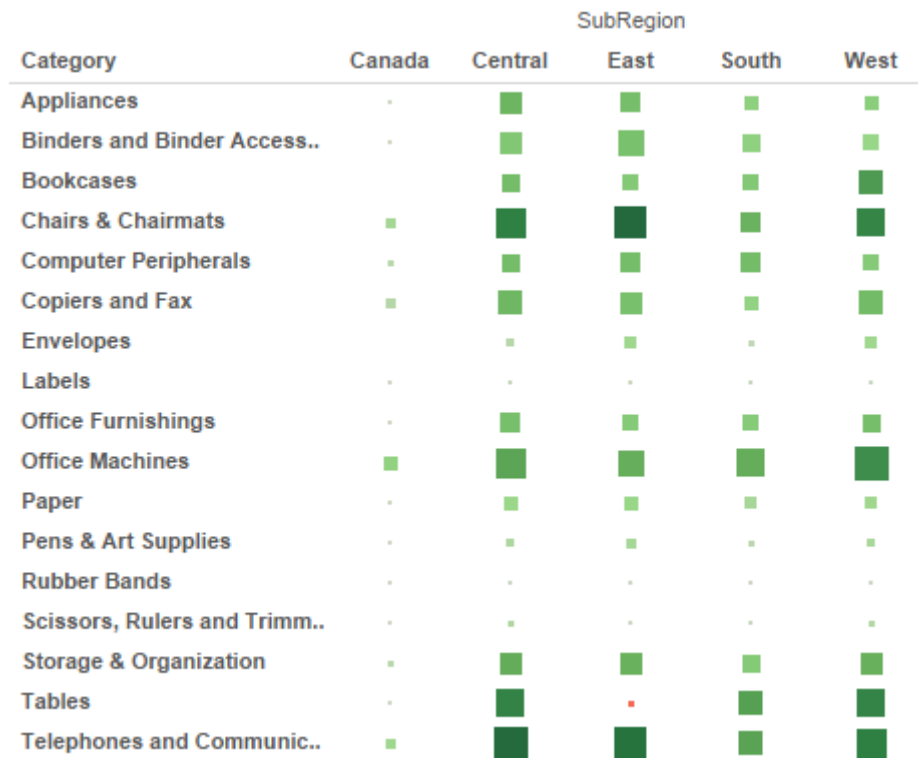
### Build your own heat map

1. Drag one measure to **Size** and one measure to **Color** on the **Marks** card.
2. Drag one dimension to **Columns** and one dimension to **Rows** to build a table.
3. Use the **Marks** card to adjust shape sizes and colour palette as desired.



## Exercises

1. Open the packaged workbook **Workshop 8.1 – Heat Map Starter.twbx** and create a view that has the following properties:
  - Shows Sales and Profit by Subregion and Category
  - Shows Sales as size and Profit as colour
  - Filters out all records that have a NULL value for Subregion
  - Uses a red-green (diverging) colour scheme for Profit.



## Creating Crosstabs

Crosstabs (normal tables of data) are one of the most common methods of representing that where you need to see the specific values of each data element. You can create a crosstab from an existing view by right-clicking on the view's tab and selecting **Duplicate as Crosstab**, but this requires you to create the view first.

### Create a new crosstab

1. Drag a dimension from the **Data** window to the **Columns** shelf.
2. Drag a dimension from the **Data** window to the **Rows** shelf.
3. Drag a measure to **Text** on the **Marks** card.
4. If you want to add extra measures to be displayed then drag and drop them into the view with the existing measure in the crosstab you've created. This will add a new column for each measure and will add **Measure Names** and **Measure Values** to be brought into play (Figure 1 below – a single value is shown in the left crosstab while two values are shown in the right crosstab).

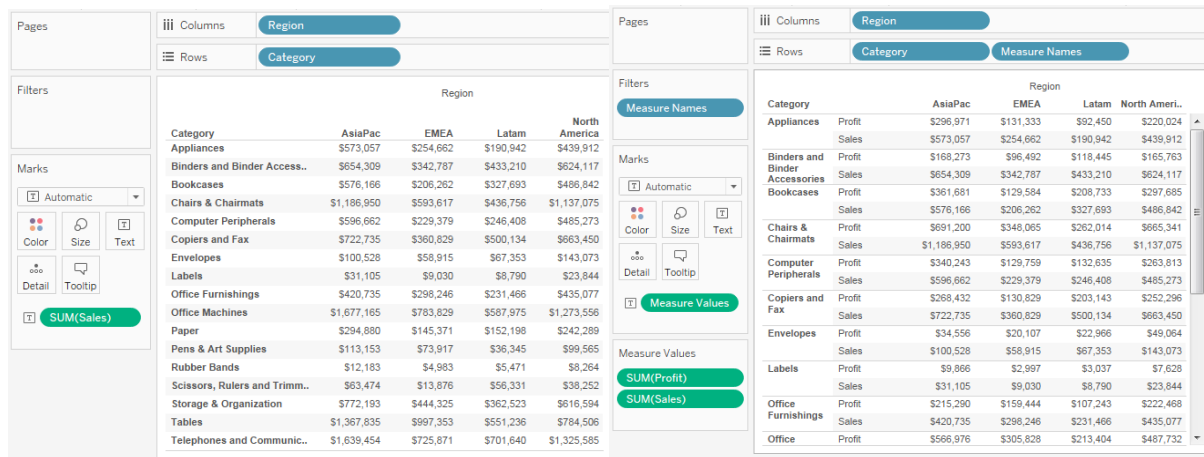


FIGURE 1: CROSBAB WITH SINGLE VALUE (L) AND MULTIPLE VALUES (R)

## Exercises

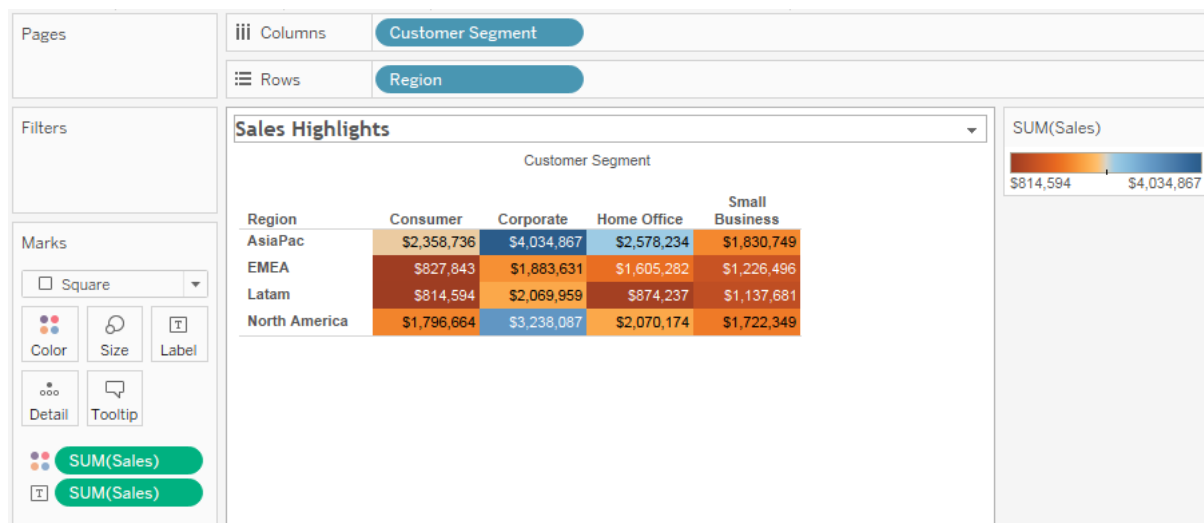
- Open the packaged workbook **Workshop 8.2 – Highlight Table Starter.twbx** and create a crosstab that has the following properties:
  - Shows Sales by Customer Segment and Region.

### Sales by Customer Segment

| Region        | Customer Segment |             |             |                |
|---------------|------------------|-------------|-------------|----------------|
|               | Consumer         | Corporate   | Home Office | Small Business |
| AsiaPac       | \$2,358,736      | \$4,034,867 | \$2,578,234 | \$1,830,749    |
| EMEA          | \$827,843        | \$1,883,631 | \$1,605,282 | \$1,226,496    |
| Latam         | \$814,594        | \$2,069,959 | \$874,237   | \$1,137,681    |
| North America | \$1,796,664      | \$3,238,087 | \$2,070,174 | \$1,722,349    |

## Creating Highlight Tables

Highlight tables are colour-coded crosstabs. These make very high or low data values obvious, and are useful for showing detailed values in text while highlighting outliers and patterns in colour.



## To Create a Highlight Table

1. Drag at least one dimension to the **Rows** shelf or the **Columns** shelf.
2. Drag the measure to **Text** on the **Marks** card.
3. Drag another instance of the same measure to **Color** on the **Marks** card.
4. On the **Marks** card, from the drop-down list of mark types, choose **Square**.

## Excercises

1. Create a new worksheet in **Workshop 8.2 – Highlight Table Starter.twbx** and create a crosstab that has the following properties:
  - Shows Profit for Department and Category by Region.
  - Uses an Orange-Blue diverging colour palette.

### Sales Highlights

| Department      | Category                 | Region / SubRegion |           |           |               |           |             |           |           |
|-----------------|--------------------------|--------------------|-----------|-----------|---------------|-----------|-------------|-----------|-----------|
|                 |                          | AsiaPac            | EMEA      | Latam     | North America |           |             |           |           |
|                 |                          | Null               | Null      | Null      | Canada        | Central   | East        | South     | West      |
| Furniture       | Bookcases                | \$361,681          | \$129,584 | \$208,733 |               | \$70,247  | \$47,737    | \$49,345  | \$130,356 |
|                 | Chairs & Chairmats       | \$691,200          | \$348,065 | \$262,014 | \$16,048      | \$176,666 | \$217,691   | \$86,789  | \$168,147 |
|                 | Office Furnishings       | \$215,290          | \$159,444 | \$107,243 | \$592         | \$65,781  | \$45,072    | \$44,891  | \$66,132  |
|                 | Tables                   | \$865,879          | \$643,292 | \$329,521 | \$957         | \$171,656 | (\$100,136) | \$120,473 | \$169,806 |
| Office Supplies | Appliances               | \$296,971          | \$131,333 | \$92,450  | \$239         | \$81,228  | \$66,362    | \$34,494  | \$37,702  |
|                 | Binders and Binder A...  | \$168,273          | \$96,492  | \$118,445 | \$478         | \$51,656  | \$62,064    | \$31,708  | \$19,857  |
|                 | Envelopes                | \$34,556           | \$20,107  | \$22,966  |               | \$9,214   | \$17,594    | \$4,650   | \$17,606  |
|                 | Labels                   | \$9,866            | \$2,997   | \$3,037   | \$266         | \$2,211   | \$2,070     | \$1,662   | \$1,419   |
|                 | Paper                    | \$97,297           | \$48,182  | \$49,824  | \$1,992       | \$19,762  | \$20,206    | \$14,731  | \$17,747  |
|                 | Pens & Art Supplies      | \$58,044           | \$38,728  | \$18,651  | \$408         | \$12,617  | \$15,321    | \$7,068   | \$14,146  |
|                 | Rubber Bands             | \$5,671            | \$2,393   | \$2,616   | \$31          | \$1,163   | \$781       | \$447     | \$856     |
|                 | Scissors, Rulers and ... | \$45,479           | \$7,673   | \$43,626  | \$155         | \$12,015  | \$1,350     | \$2,492   | \$10,833  |
|                 | Storage & Organization   | \$429,069          | \$251,128 | \$191,224 | \$8,399       | \$97,257  | \$89,729    | \$46,415  | \$91,414  |
| Technology      | Computer Peripherals     | \$340,243          | \$129,759 | \$132,635 | \$8,451       | \$70,383  | \$67,921    | \$70,503  | \$46,555  |
|                 | Copiers and Fax          | \$268,432          | \$130,829 | \$203,143 | \$9,384       | \$78,110  | \$62,781    | \$29,609  | \$72,413  |
|                 | Office Machines          | \$566,976          | \$305,828 | \$213,404 | \$31,162      | \$112,047 | \$93,739    | \$96,299  | \$154,485 |
|                 | Telephones and Com...    | \$916,003          | \$405,059 | \$383,775 | \$17,982      | \$217,251 | \$202,470   | \$115,018 | \$178,538 |

## Showing Grand Totals, Subtotals, and Changing Aggregation

Grand totals and subtotals can be shown in any view but are most commonly seen in crosstabs.

Grand totals are calculated using the aggregations shown in the view, not in the original data set.

Subtotals are calculated from the sections shown in the view, not in the original data set.

| Department         | Category                       | Region       |             |             |               | Grand Total  |
|--------------------|--------------------------------|--------------|-------------|-------------|---------------|--------------|
|                    |                                | AsiaPac      | EMEA        | Latam       | North Ameri.. |              |
| Furniture          | Bookcases                      | \$576,166    | \$206,262   | \$327,693   | \$486,842     | \$1,596,963  |
|                    | Chairs & Chairmats             | \$1,186,950  | \$593,617   | \$436,756   | \$1,137,075   | \$3,354,398  |
|                    | Office Furnishings             | \$420,735    | \$298,246   | \$231,466   | \$435,077     | \$1,385,525  |
|                    | Tables                         | \$1,367,835  | \$997,353   | \$551,236   | \$784,506     | \$3,700,931  |
|                    | <b>Total</b>                   | \$3,551,687  | \$2,095,478 | \$1,547,150 | \$2,843,501   | \$10,037,816 |
| Office Supplies    | Appliances                     | \$573,057    | \$254,662   | \$190,942   | \$439,912     | \$1,458,573  |
|                    | Binders and Binder Accessori.. | \$654,309    | \$342,787   | \$433,210   | \$624,117     | \$2,054,422  |
|                    | Envelopes                      | \$100,528    | \$58,915    | \$67,353    | \$143,073     | \$369,868    |
|                    | Labels                         | \$31,105     | \$9,030     | \$8,790     | \$23,844      | \$72,770     |
|                    | Paper                          | \$294,880    | \$145,371   | \$152,198   | \$242,289     | \$834,738    |
|                    | Pens & Art Supplies            | \$113,153    | \$73,917    | \$36,345    | \$99,565      | \$322,980    |
|                    | Rubber Bands                   | \$12,183     | \$4,983     | \$5,471     | \$8,264       | \$30,901     |
|                    | Scissors, Rulers and Trimmers  | \$63,474     | \$13,876    | \$56,331    | \$38,252      | \$171,933    |
|                    | Storage & Organisation         | \$772,193    | \$444,325   | \$362,523   | \$616,594     | \$2,195,635  |
|                    | <b>Total</b>                   | \$2,614,883  | \$1,347,866 | \$1,313,163 | \$2,235,909   | \$7,511,821  |
| Technology         | Computer Peripherals           | \$596,662    | \$229,379   | \$246,408   | \$485,273     | \$1,557,723  |
|                    | Copiers and Fax                | \$722,735    | \$360,829   | \$500,134   | \$663,450     | \$2,247,147  |
|                    | Office Machines                | \$1,677,165  | \$783,829   | \$587,975   | \$1,273,556   | \$4,322,526  |
|                    | Telephones and Communicati..   | \$1,639,454  | \$725,871   | \$701,640   | \$1,325,585   | \$4,392,550  |
|                    | <b>Total</b>                   | \$4,636,016  | \$2,099,908 | \$2,036,157 | \$3,747,864   | \$12,519,945 |
| <b>Grand Total</b> |                                | \$10,802,586 | \$5,543,252 | \$4,896,470 | \$8,827,274   | \$30,069,582 |

Subtotals

Row  
Grand  
Totals

Column Grand Totals

## Show Row and Column Totals

1. On the **Analysis** menu select **Totals** and choose **Show Row Grand Totals**.
2. On the **Analysis** menu select **Totals** and choose **Show Column Grand Totals**.

To remove the grand totals, return to the **Analysis** menu and select the appropriate control a second time, which toggles it off.

## Show Subtotals

1. On the **Analysis** menu select **Totals** and choose **Add All Subtotals**.

To remove the subtotals, return to the **Analysis** menu and select **Remove All Subtotals**.

## Exercises

1. Open the packaged workbook **Workshop 8.3 – Totals Starter.twbx** and create a view with the following properties:
  - Uses the Total Sales worksheet
  - Has row and column grand totals
  - Shows all subtotals

|                    |                                | Region       |             |             |               |              |
|--------------------|--------------------------------|--------------|-------------|-------------|---------------|--------------|
| Department         | Category                       | AsiaPac      | EMEA        | Latam       | North America | Grand Total  |
| Furniture          | Bookcases                      | \$576,166    | \$206,262   | \$327,693   | \$486,842     | \$1,596,963  |
|                    | Chairs & Chairmats             | \$1,186,950  | \$593,617   | \$436,756   | \$1,137,075   | \$3,354,398  |
|                    | Office Furnishings             | \$420,735    | \$298,246   | \$231,466   | \$435,077     | \$1,385,525  |
|                    | Tables                         | \$1,367,835  | \$997,353   | \$551,236   | \$784,506     | \$3,700,931  |
|                    | <b>Total</b>                   | \$3,551,687  | \$2,095,478 | \$1,547,150 | \$2,843,501   | \$10,037,816 |
| Office Supplies    | Appliances                     | \$573,057    | \$254,662   | \$190,942   | \$439,912     | \$1,458,573  |
|                    | Binders and Binder Accessori.. | \$654,309    | \$342,787   | \$433,210   | \$624,117     | \$2,054,422  |
|                    | Envelopes                      | \$100,528    | \$58,915    | \$67,353    | \$143,073     | \$369,868    |
|                    | Labels                         | \$31,105     | \$9,030     | \$8,790     | \$23,844      | \$72,770     |
|                    | Paper                          | \$294,880    | \$145,371   | \$152,198   | \$242,289     | \$834,738    |
|                    | Pens & Art Supplies            | \$113,153    | \$73,917    | \$36,345    | \$99,565      | \$322,980    |
|                    | Rubber Bands                   | \$12,183     | \$4,983     | \$5,471     | \$8,264       | \$30,901     |
|                    | Scissors, Rulers and Trimmers  | \$63,474     | \$13,876    | \$56,331    | \$38,252      | \$171,933    |
|                    | Storage & Organization         | \$772,193    | \$444,325   | \$362,523   | \$616,594     | \$2,195,635  |
|                    | <b>Total</b>                   | \$2,614,883  | \$1,347,866 | \$1,313,163 | \$2,235,909   | \$7,511,821  |
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|                    | Telephones and Communicati..   | \$1,639,454  | \$725,871   | \$701,640   | \$1,325,585   | \$4,392,550  |
|                    | <b>Total</b>                   | \$4,636,016  | \$2,099,908 | \$2,036,157 | \$3,747,864   | \$12,519,945 |
| <b>Grand Total</b> |                                | \$10,802,586 | \$5,543,252 | \$4,896,470 | \$8,827,274   | \$30,069,582 |