# Tableau Quickstarter

## Proficient in 1 Day

## 10 Key Skills that Most Learn the Hard Way

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4 Create an account and download the app here
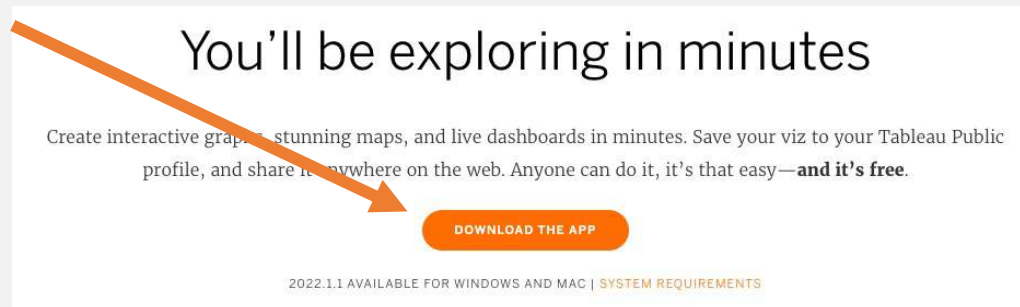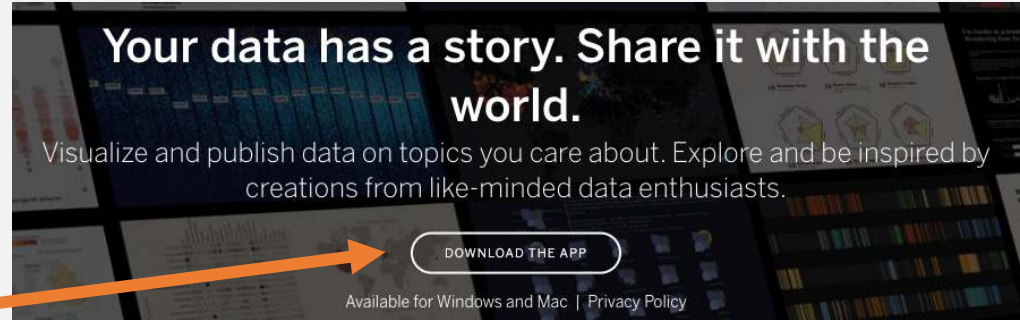


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**1** Download the Excel table here

**Here**

**2** Then save it to place you'll remember

**3** Open your Tableau Public app

Mac: Finder > Applications > Tableau Public
Windows: Start > type "Tableau Public"

**4** Connect the data here

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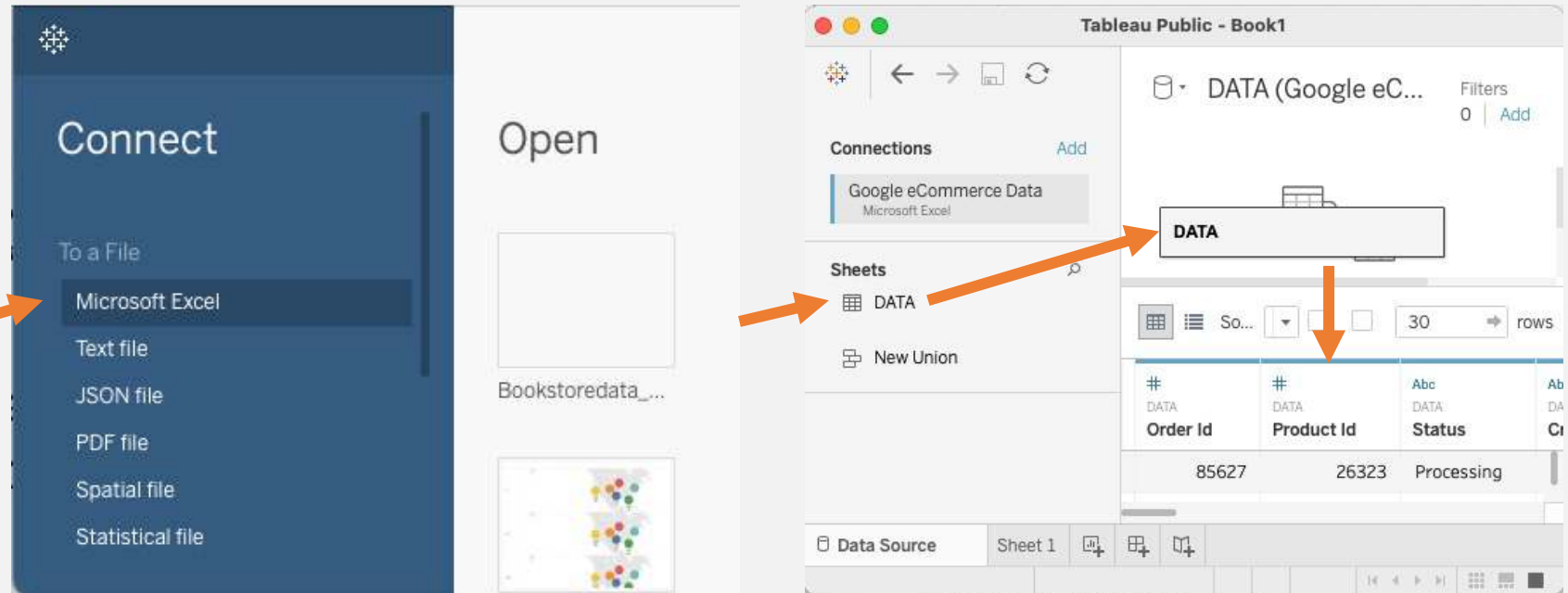
**Dimensions:** these are fields in the data *without* numbers. They contain qualitative information on which we can group measures. NOTE: dimensions can be <u>counted</u>, but we cannot add, max, min, or average them. Example: Country.

**Measures:** these are fields in the underlying data table *with* numbers. They can be aggregated, meaning we can take the sum, max, min, average, and count of the values. Example: Sales Price.

**Sheets:** these are sections in the Tableau view that show different worksheets and views.
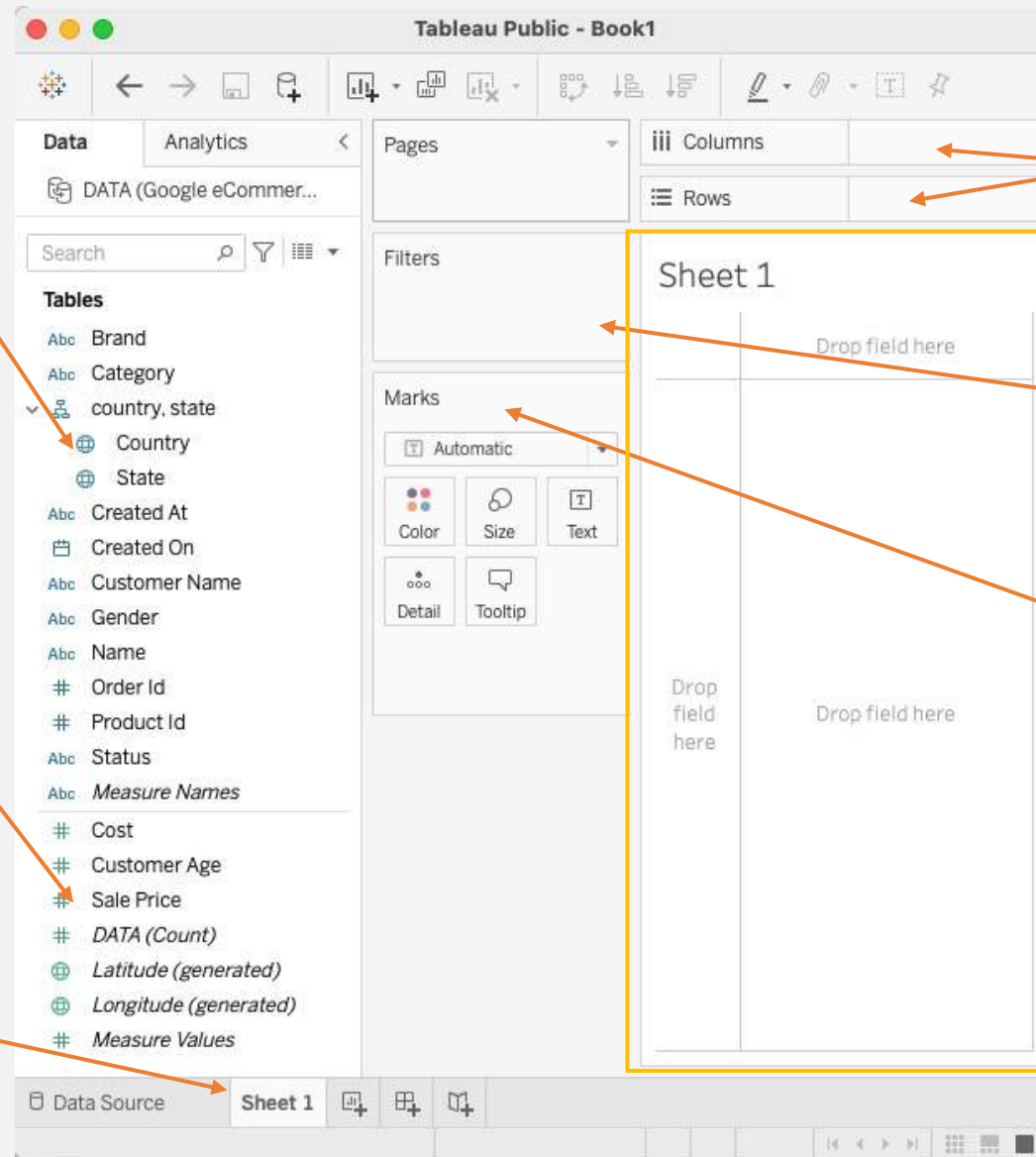
**Shelves:** these are Columns and Rows where we place dimensions and measures to display them in the view.

**Filters:** this is a functionality we can use to exclude certain values from dimensions and measures. For example, we could filter out China from Country.

**Marks:** marks are the visual elements that appear in the view. We can make marks into columns, bars, lines, areas, shapes, pies, and more.

**View:** the area where visualizations appear.

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**Dimensions:** drag the Country dimension to the columns shelf.

**Measures:** drag the Sale Price measure to the Rows shelf.
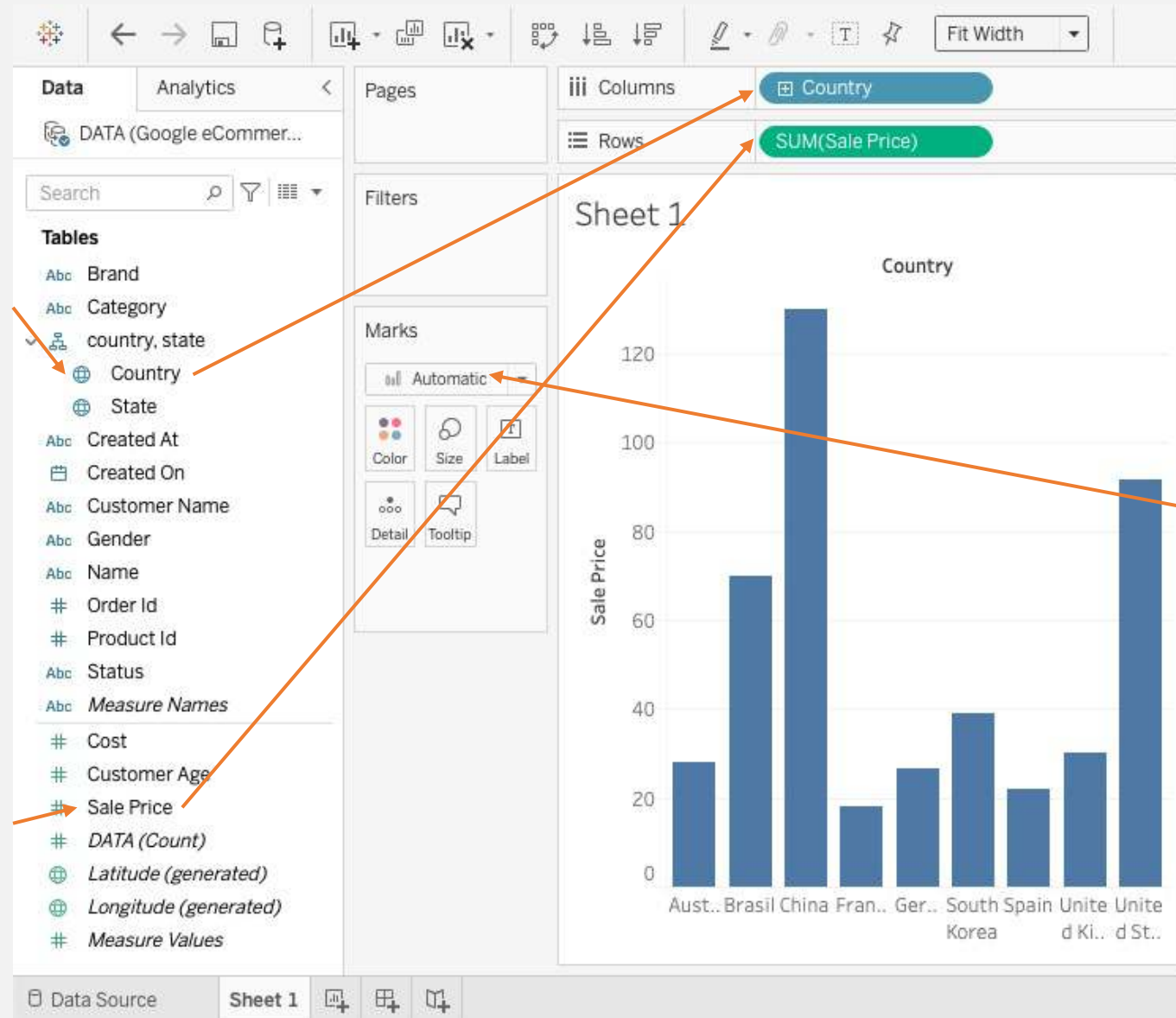
**Marks:** the automatic mark should load a column view. If not, click the drop-down menu and select "Bar."

1. **Title:** right-click > Edit title… > write "Sales by Country." Center it as well with ☰ > OK.
2. **Country legend**: abbreviate the country names using a <u>calculated field</u>.
3. **Hide field labels**: right-click > hide field labels for columns.
4. **Remove grid lines**: right-click in the view > Format… > ☰ > Sheet > Grid lines > None.
5. **Change background color to grey**: right-click in the view > Format… > 🖌 > Sheet > Worksheet > Grey.
6. **Color columns yellow**: Marks > Click Color > Yellow.
7. **Add Labels**: drag Sale Price measure to Marks > Labels. Then drop-down sales price pill label > Measure… > Average.
8. See the result on the next page.



```
IF LEN([Country])<7
THEN [Country]
ELSE
LEFT([Country],3)
+
IF CONTAINS([Country]," ") THEN
MID([Country],FIND([Country]," "),4)
ELSE ""
END
END
```
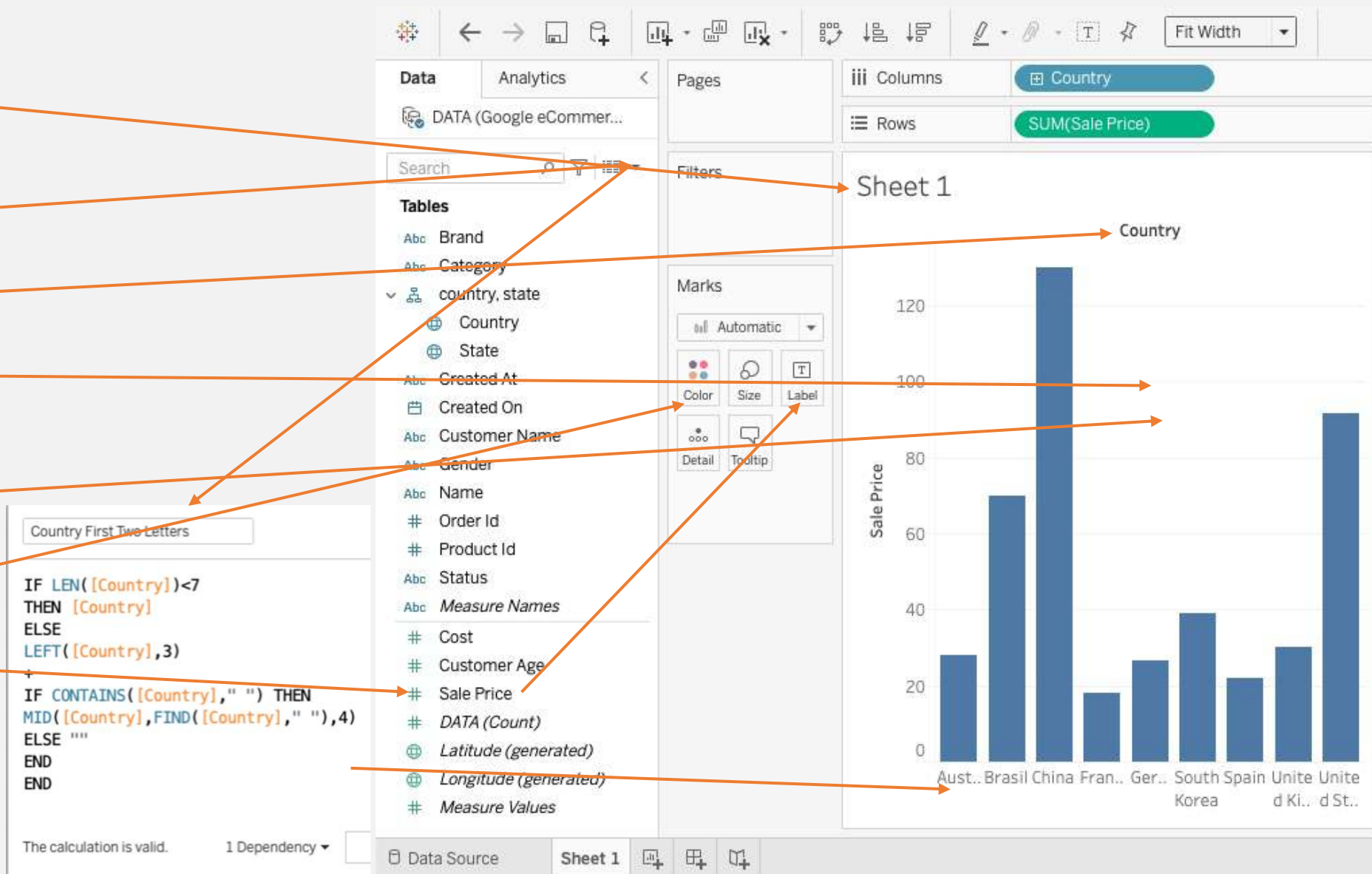
This view shows total sales by country, with a label that shows the average sales value per country.

Note that we replaced "Country" in the columns shelf with "Country First Two Letters."

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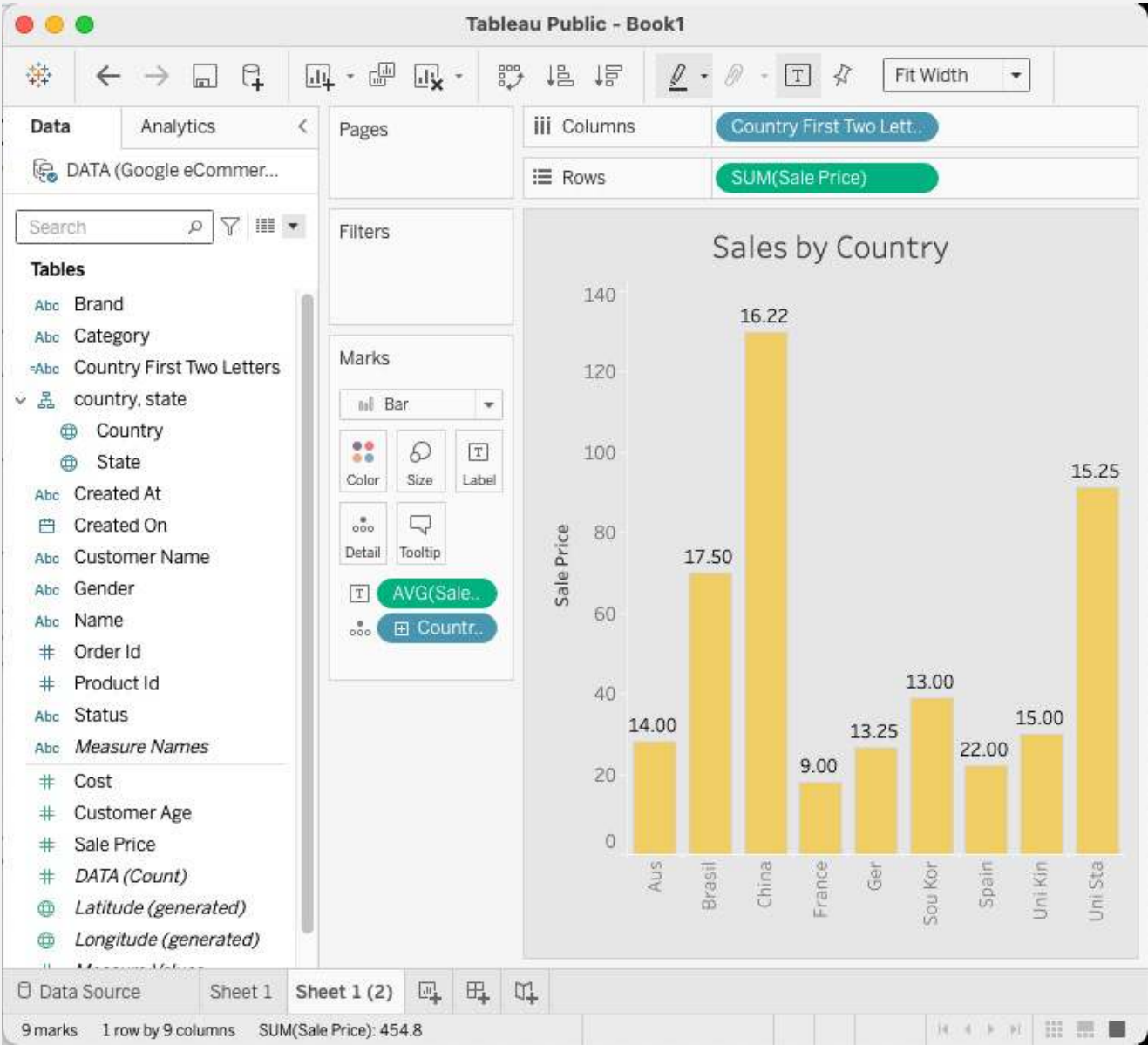
1. **Duplicate sheet:** right-click sheet 1 > Duplicate.
2. **Filter for US and China**: drag country dimension to Filter card. Select United States and China > OK.
3. **Add Categories**: drag the categories dimension to the Column shelf to the right of "Countries First Two Letters".
4. **Show the order status:** drag the status dimension to Mark > Color.
5. **Sort countries**: drop-down the Country pill on the column shelf > Sort… + Field + Descending + Sale Price.
6. **Sort categories**: drop-down Categories pull on column shelf > Sort… > <u>Nested</u> + Descending + Sales price + Sum.



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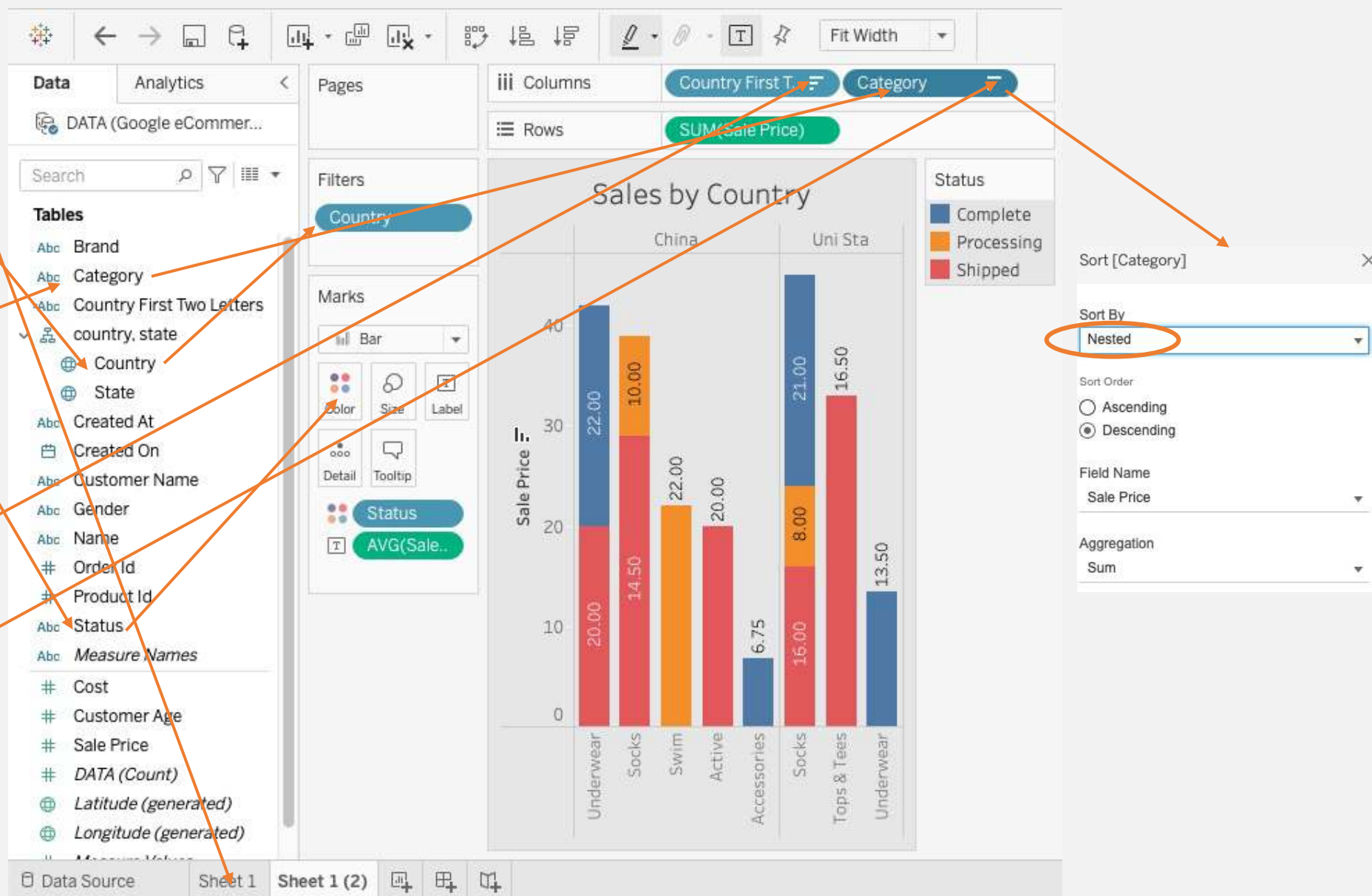
1. **Duplicate sheet:** right-click sheet 1 (2) > Duplicate.
2. **Create calculated field IF statement**: click the drop-down button above fields > Create Calculated Field > title it "Sales Price IF Status Complete" > enter this formula > OK.
3. **Drag it to view**: Replace SUM(sales price) pill in the row shelf with the calculated field.
4. **See this in the underlying data:** click ⊞ above the fields and see what's happening in the data.
5. **See this in the view**: we've eliminated all non-complete orders in the view on the right of the page.
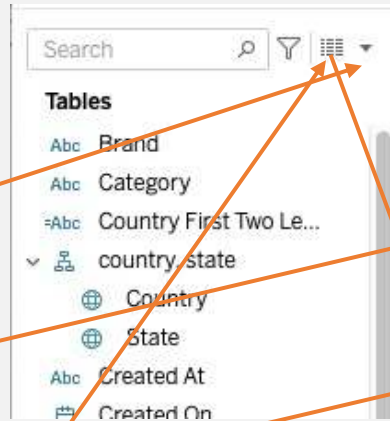
Note the name of our new measure!

Sales Price IF Status Complete

IF [Status]="Complete"
THEN [Sale Price]
END
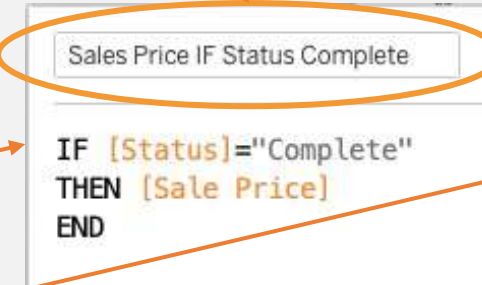
IF        = "Complete" THEN        END

| Status | Sale Price | Sales Price IF Status Complete |
|---|---|---|
| Processing | 17.0000 | Null |
| Complete | 16.0000 | 16.0000 |
| Returned | 12.0000 | Null |
| Shipped | 14.0000 | Null |
| Complete | 22.0000 | 22.0000 |

Columns | Country First T.. | Categor

Rows | SUM(Sales Price I..

Sales by Country

China        Uni Sta
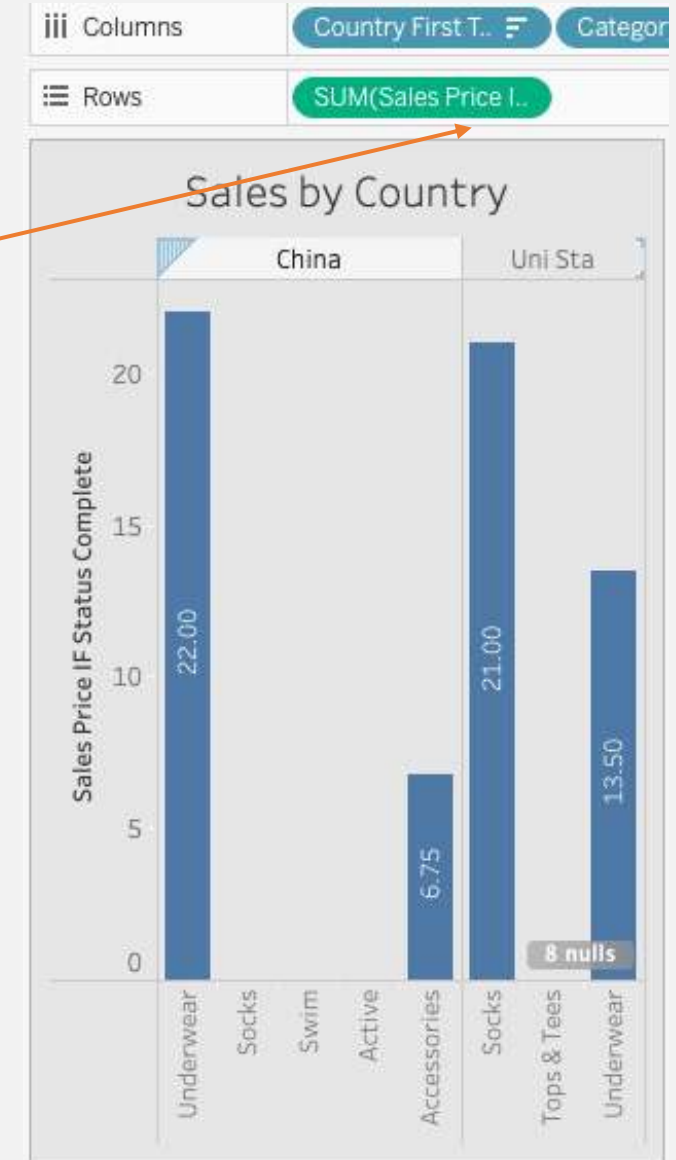
1. **Duplicate sheet:** right-click sheet 1 (3) > Duplicate.
2. **Remove status from color mark.** Drag the status dimension under colors tp the dimension field area (on the left) to remove it.
3. **Color based on measure**. Place the Sales Price measure on the Color mark. Then click Color > Edit Colors… > Stepped Color, 2 > Advanced >> Center: 20.
   a) Click the color boxes to set red and blue.
4. **Result**: Now Sales Price averages are colored blue when greater than 20, and red when less than 20.
5. **Use dimensions**: To color with dimensions, refer to step 5 where we used Status to color the columns.
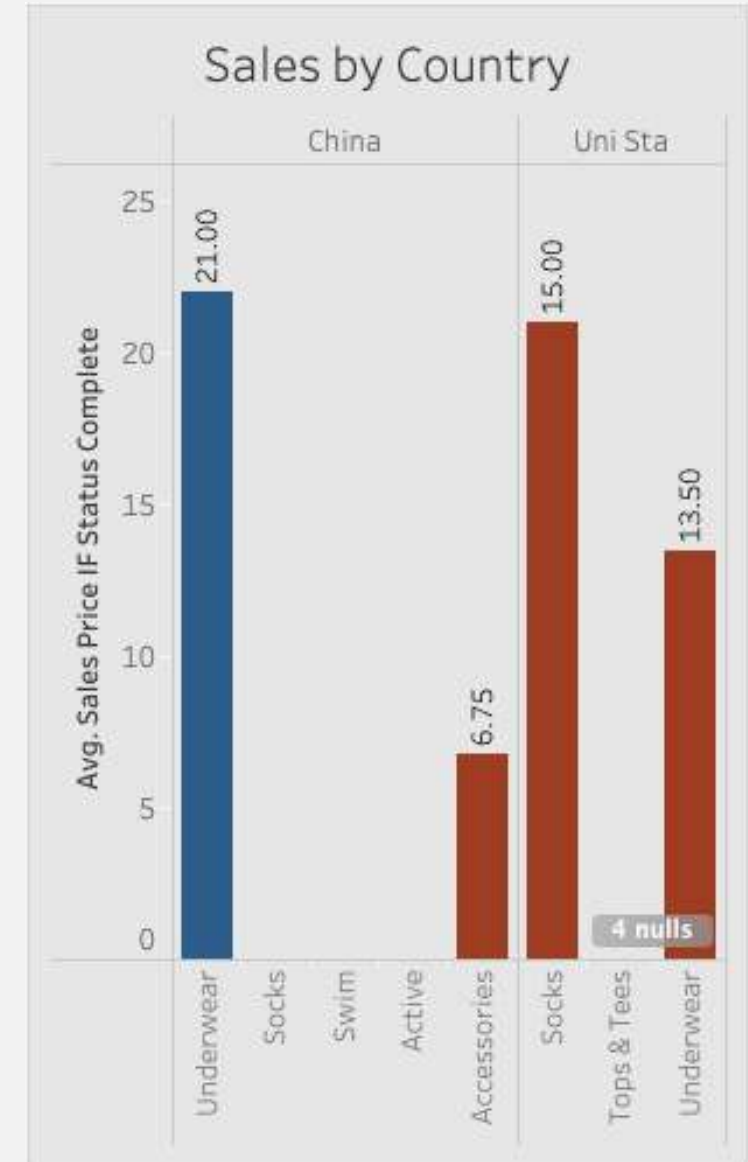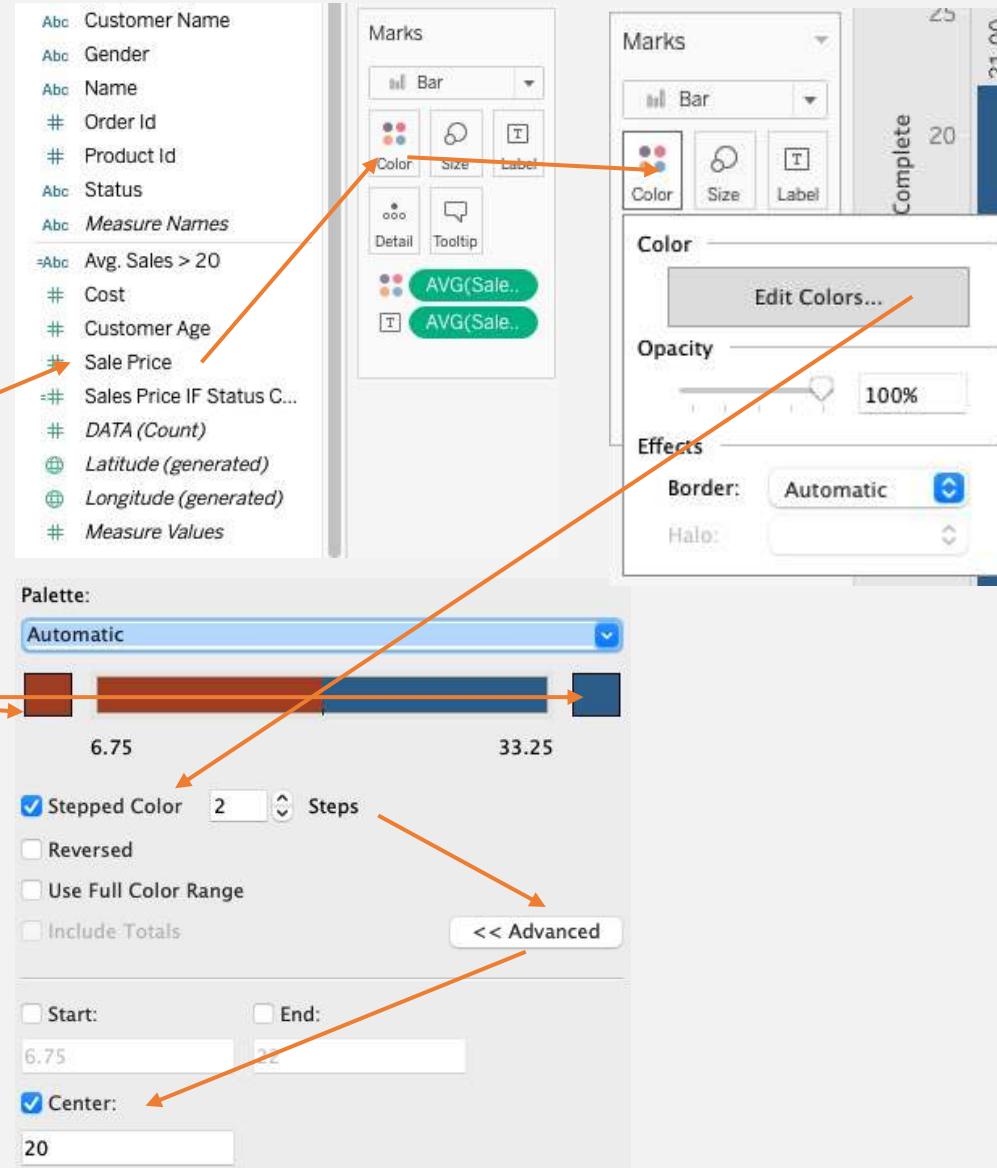
1. **Duplicate sheet:** right-click sheet 1 (4) > Duplicate.
2. **Remove Sales price IF measure**. Replace the sales price measure in the rows shelf and replace it with the normal sales price field.
3. **Change the Categories sort to Aggregation: Average.**
4. **Remove the sales price color mark.**
5. **Create this FIXED calculated field.** Drag it the the row shelf next to AVG(Sale Price).
6. **Change mark label.** You'll see the new measure on the marks card. Remove the AVG(Sale Price label) and replace with AVG:(Sales FIXED on Country).
7. **Format the label**: right-click label pill > Format… > Default > Numbers > Number (Custom) > Decimal Places: 2.
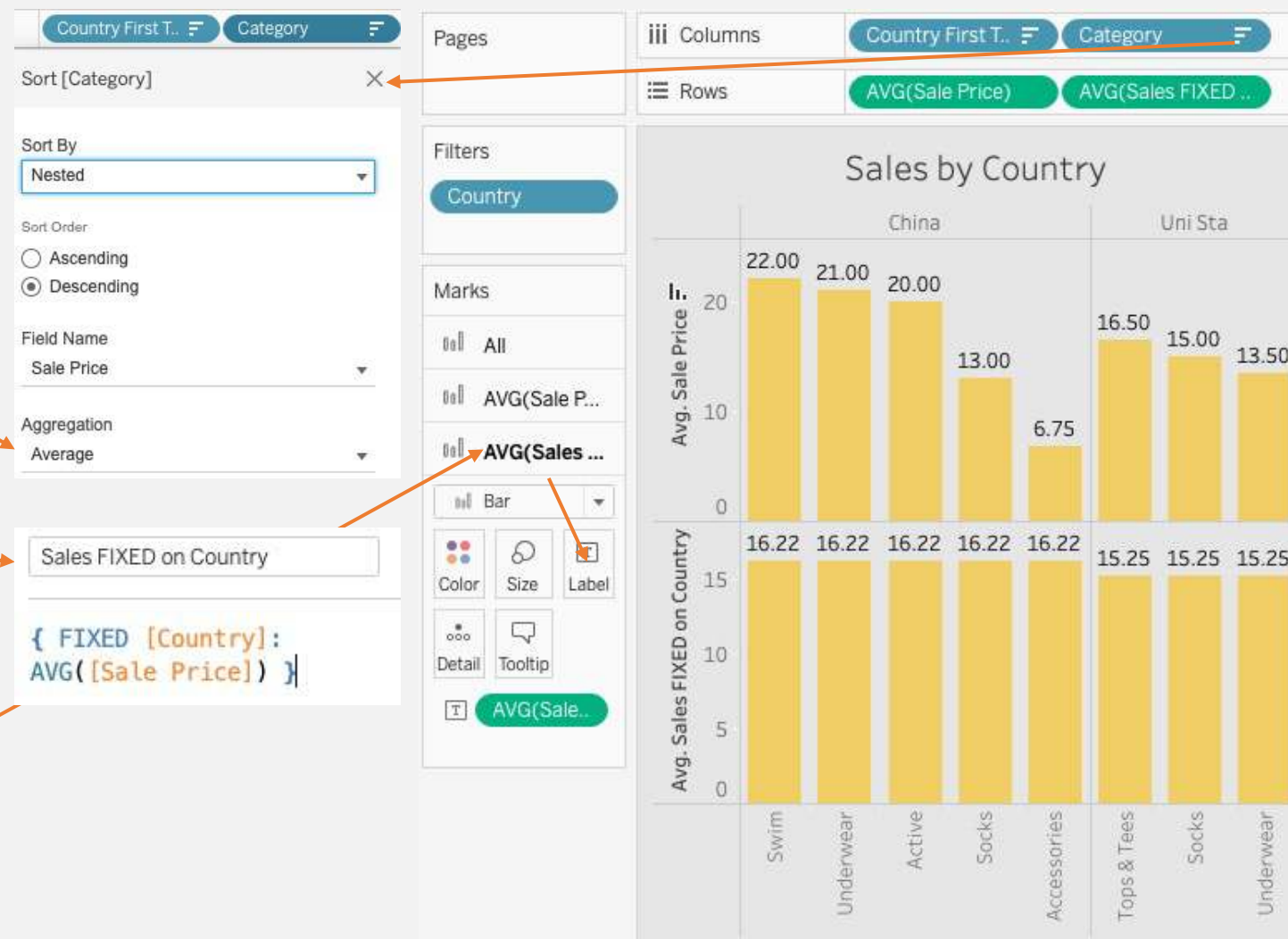


**What's happening?**

The FIXED level of detail tells Tableau to ignore the Country Filter and the Category dimension in the view.

This means it is showing the average sales price of the country alone, regardless of Category.

You can check this by removing the Category dimension. The two measures will then match because they have the same level of detail: *country*.

1. **Duplicate sheet:** right-click sheet 1 (5) > Duplicate.
2. **Remove the FIXED calculated field from the Rows shelf and from the labels:** drag them off the view.
3. **Create bins**: right-click the Sale Price measure > Create > Bins > Size of bins: 15.25 > OK.
4. **Put the bin dimension on the row shelf:** drag the bin dimension to the row shelf in front of AVG(Sale Price).
   - Tableau calculates the optimal size of bins with [# of bins] = [3 + log2(n) * log(n)], where n is the number of rows.
5. Use bins to break up your data into groups based on the number of rows in your data, or with your own estimation.
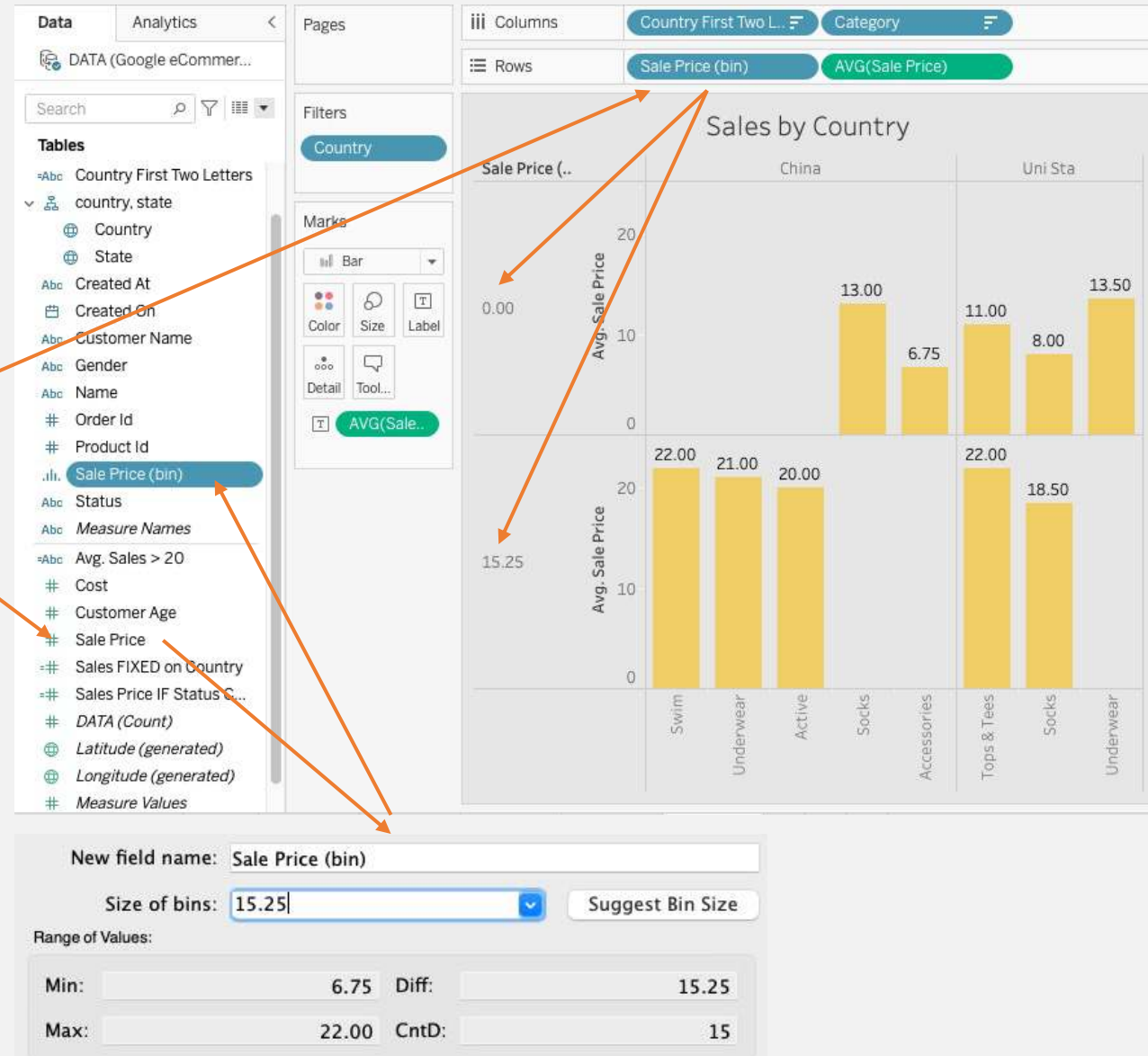
1. **Duplicate sheet:** right-click sheet 1 (6) > Duplicate.
2. **Remove bins from the view**.
3. **Create a text mark**: drag the sales price measure from the row shelf to the Label Mark.
4. **Change to SUM.** Right-click the pill > Measure > SUM.
5. **Change marks to text.** Mark drop-down > Text.
6. **Move countries and categories to rows:** drag the pills.
7. This is a **crosstab view**—a non-visual tabular view to quickly understand the data you're working with.

| Pages |

| iii Columns |

| ≡ Rows | Country First Two L.. | Category |

| Filters |

| Country |

Sales by Country

| Count.. | Category | |
|---|---|---|
| China | Accessories | 6.75 |
| | Active | 20.00 |
| | Socks | 39.00 |
| | Swim | 22.00 |
| | Underwear | 42.00 |
| Uni Sta | Socks | 45.00 |
| | Tops & Tees | 33.00 |
| | Underwear | 13.50 |

Marks

| ☐ Text | ▾ |

| Color | Size | Text |

| Detail | Tooltip |

| ☐ SUM(Sal.. |

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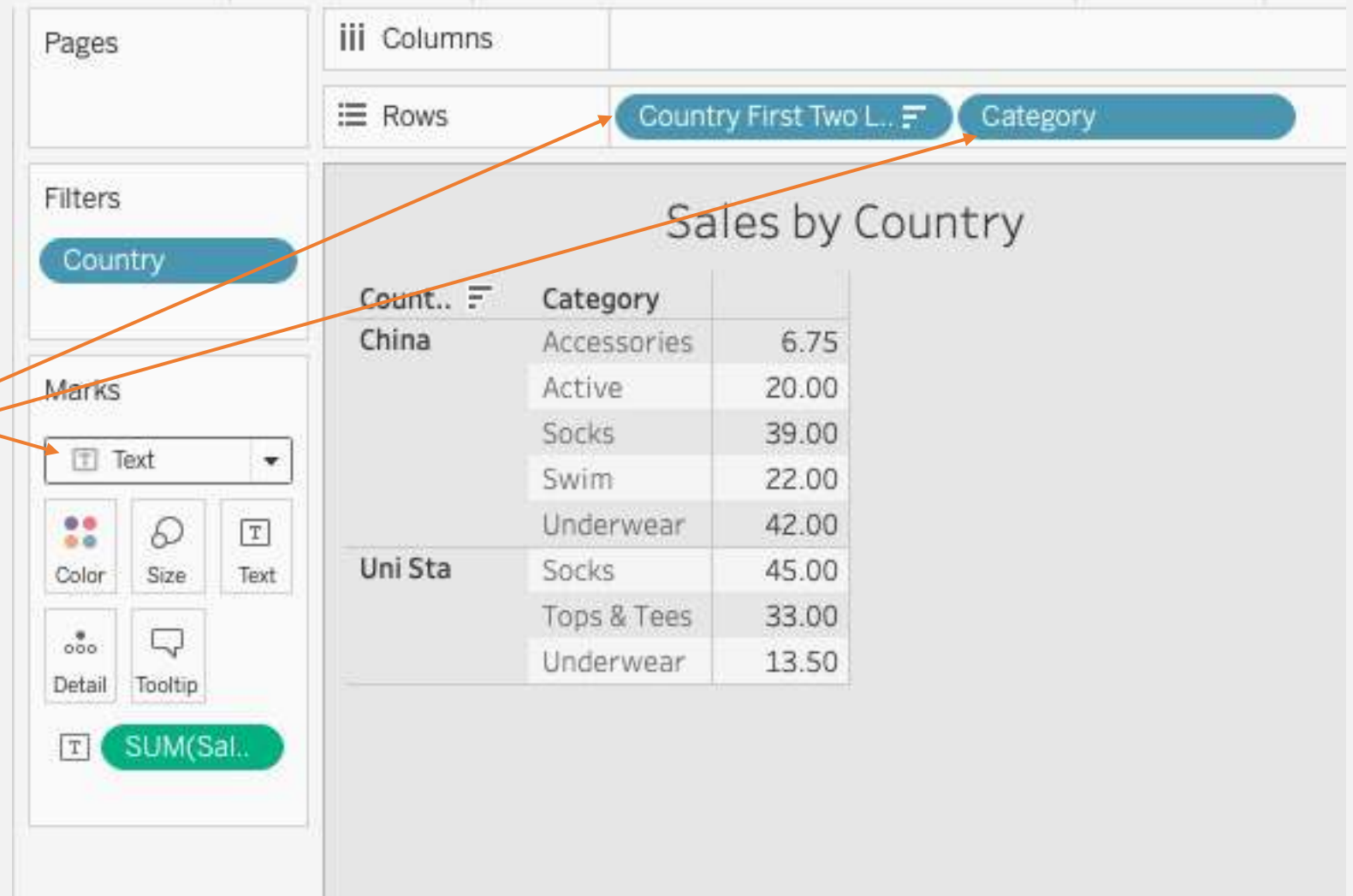
1. **Duplicate sheet:** right-click sheet 1 (7) > Duplicate.
2. **Set Percent of Total Table Calc**: right-click the text pill > Add Table Calculation... Calculation Type > Percent of Total > Specific Dimensions > Category > X to close.
3. **Add non-calculated field**: drag another instance of Sale Price to the Text Mark to show the sum value.
4. No you can see the value of each category by country, and you can see what percent it represents within the country. Pretty cool!!
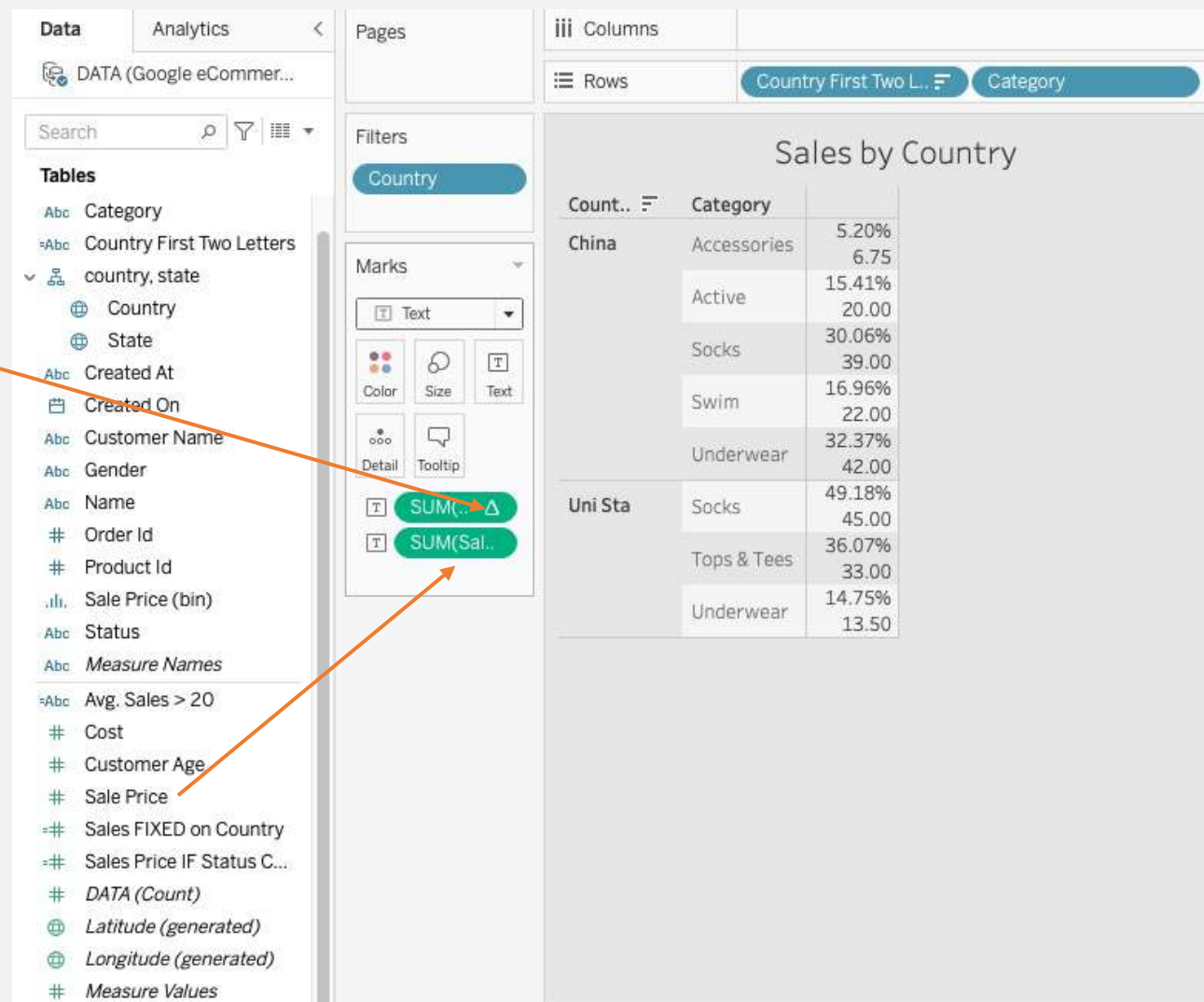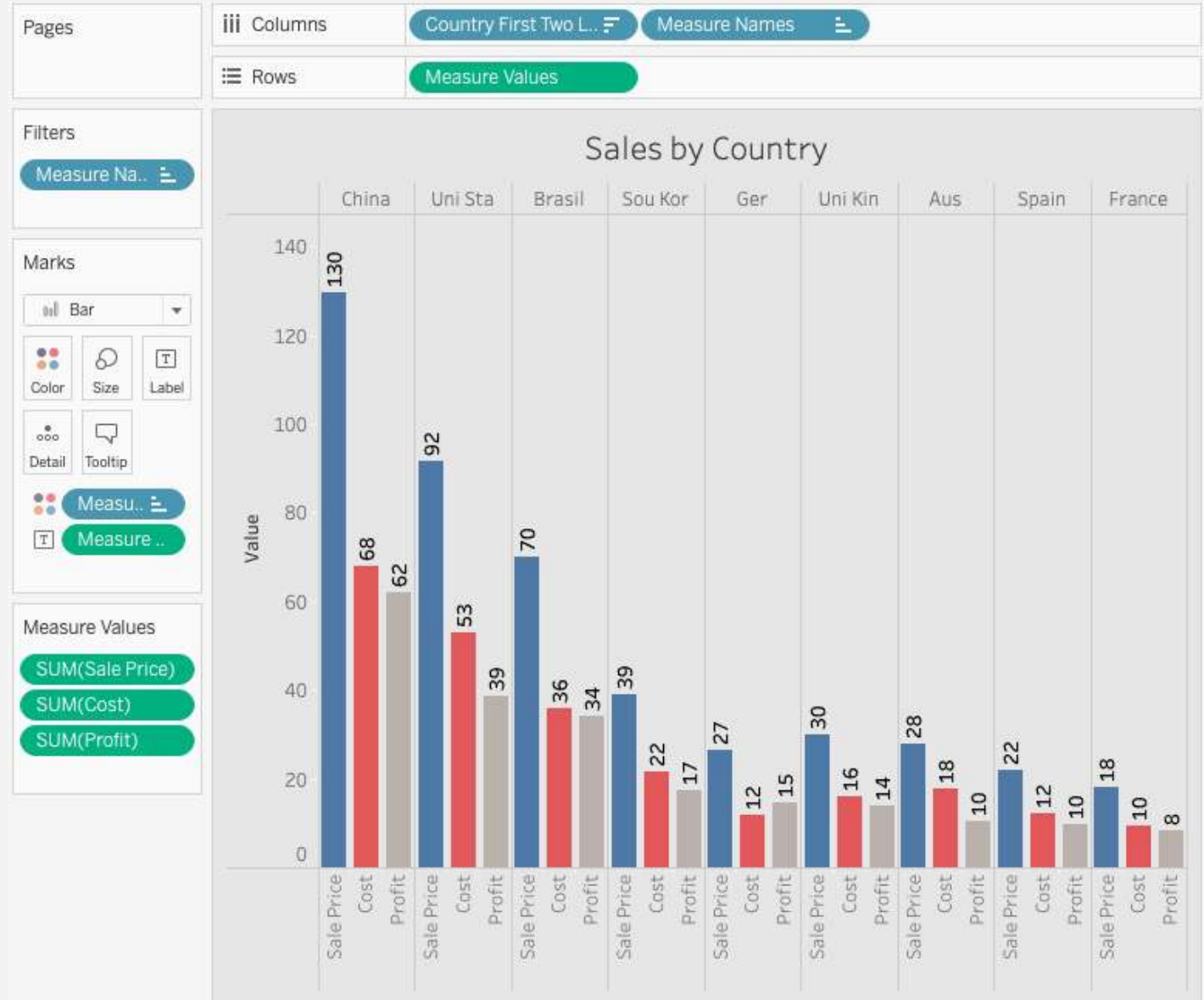
1. **Duplicate sheet:** right-click sheet 1 (8) > Duplicate.
2. Solve this on your own. The answer is to the right and below!
3. **Hint**: profit = sale price – cost.



| Country | |
|---|---|
| China | 61.89 |
| United States | 38.58 |
| Brasil | 34.08 |
| South Korea | 17.31 |
| Germany | 14.61 |
| United Kingdom | 14.11 |
| Australia | 10.40 |
| Spain | 9.64 |
| France | 8.45 |

1. What are dimensions and measures?
2. What does the filter card allow us to do?
3. What are the 6 types of marks?
4. What are the two ways to create a graph?
5. How do we format the colors in the pane?
6. How do we format colors of data series in the visualization?
7. Where do we place dimensions to add levels of granularity to the view?
8. What calculated field statement allows us to aggregate based on conditions?
9. What calculated field statement ignores filter and levels of detail in the view?
10. How can we group table rows based on measures?
11. What visualization shows the data in tabular form within the view?
12. Which country generates the most profit?

1. What are dimensions and measures?
   • Dimensions are non-numerical fields in the underlying tables, whereas measures are numerical fields that can be aggregated with SUM, MAX, MIN, AVERAGE, COUNT, and COUNTD.
2. What does the filter card allow us to do?
   • The filter card allows us to select specific values from dimensions and measures to exclude from the view.
3. What are the 6 types of marks?
   • Color, Size, Text, Detail, and Tooltip.
4. What are the two ways to create a graph?
   • Using the marks card or the "Show me" shortcut in the top-right corner of the worksheet.
5. How do we format the colors in the pane?
   • Right-click > Format… > Font OR Alignment OR Shading OR Borders OR Lines

6. How do we format colors of data series in the visualization?
   • Using the marks card.
7. Where do we place dimensions to add levels of granularity to the view?
   • In the Columns or Rows shelves.
8. What calculated field statement allows us to aggregate based on conditions?
   • The IF statement.
9. What calculated field statement ignores filter and levels of detail in the view?
   • The FIXED level of detail statement.
10. How can we group table rows based on measures?
    • Using the BINS functionality.
11. What visualization shows the data in tabular form within the view?
    • The crosstab view.
12. Which country generates the most profit?
    • China.