

ASSIGNMENT 13

Tableau Exercise

Exercise: Data Visualization Using Tableau

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PART I

Create a table in SAP HANA, which will be used as data source

1) Create a database table for the crowd sourced grocery prices

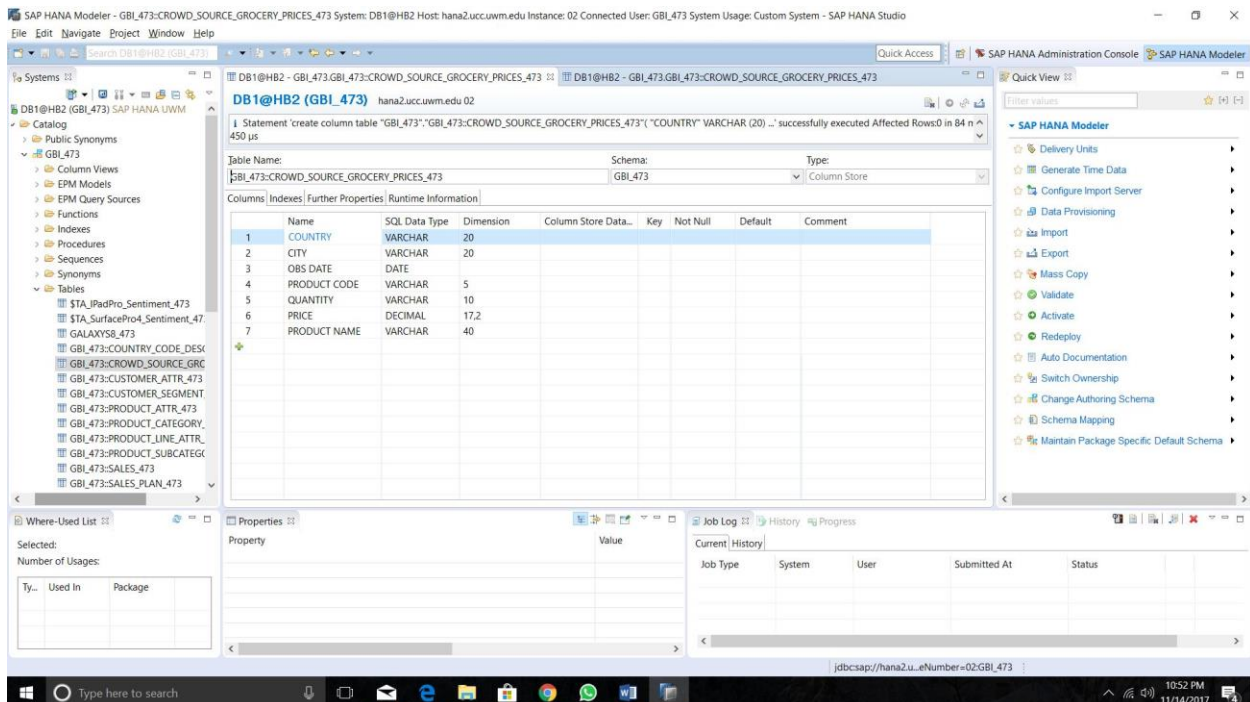
1.C.

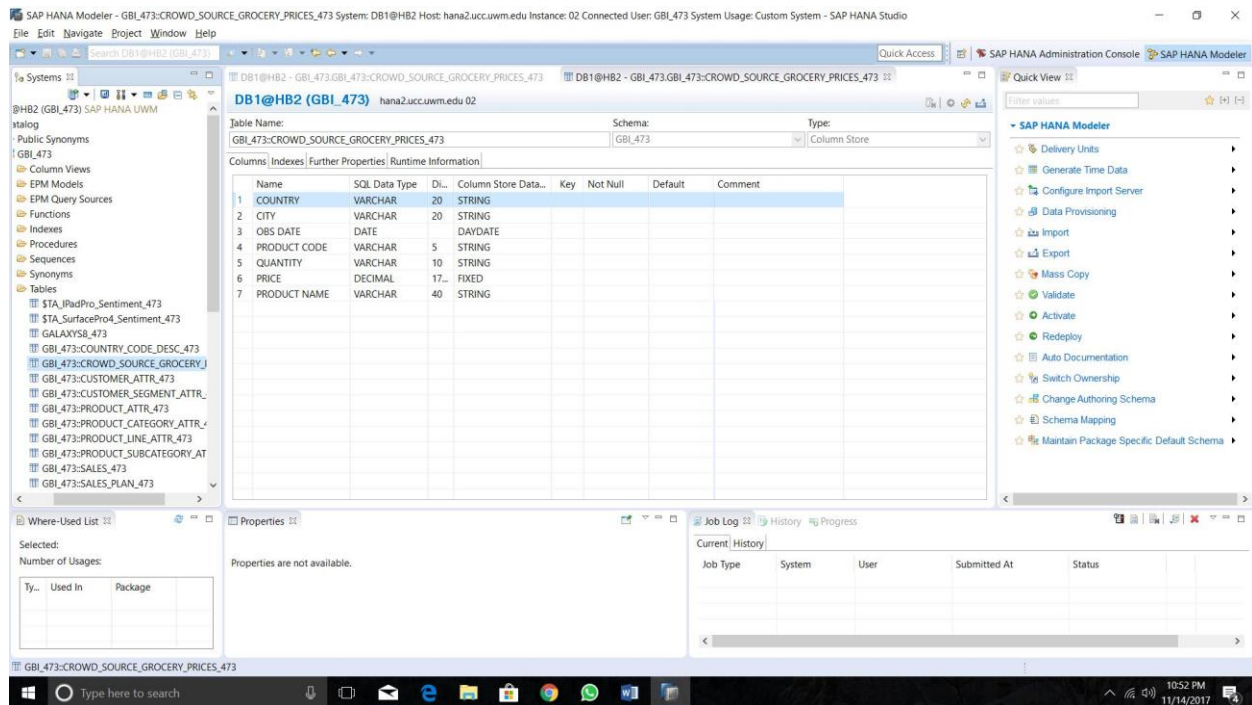
Table name: CROWD_SOURCE_GROCERY_PRICES_YYY

Table type: Column Store

Create the table using the Execute  button.

Paste a screenshot of your crowd source grocery prices table.



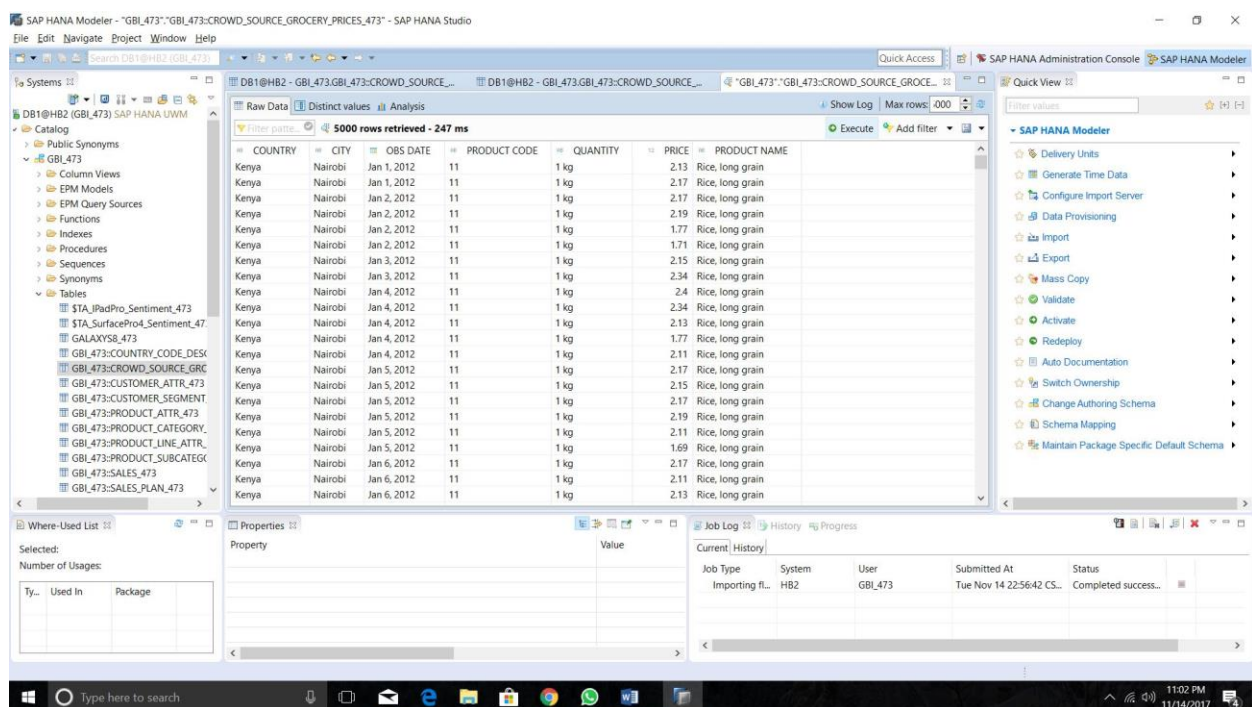


4. Manage Table Definition and Data Mappings

Open the SAP HANA Studio

Navigator View → Catalog → XX_STUDENT_YYY → Tables → CUSTOMER_ATTR_YYY → Right click → Open Data Preview.

Paste a screenshot of data preview for crowd source grocery prices table.



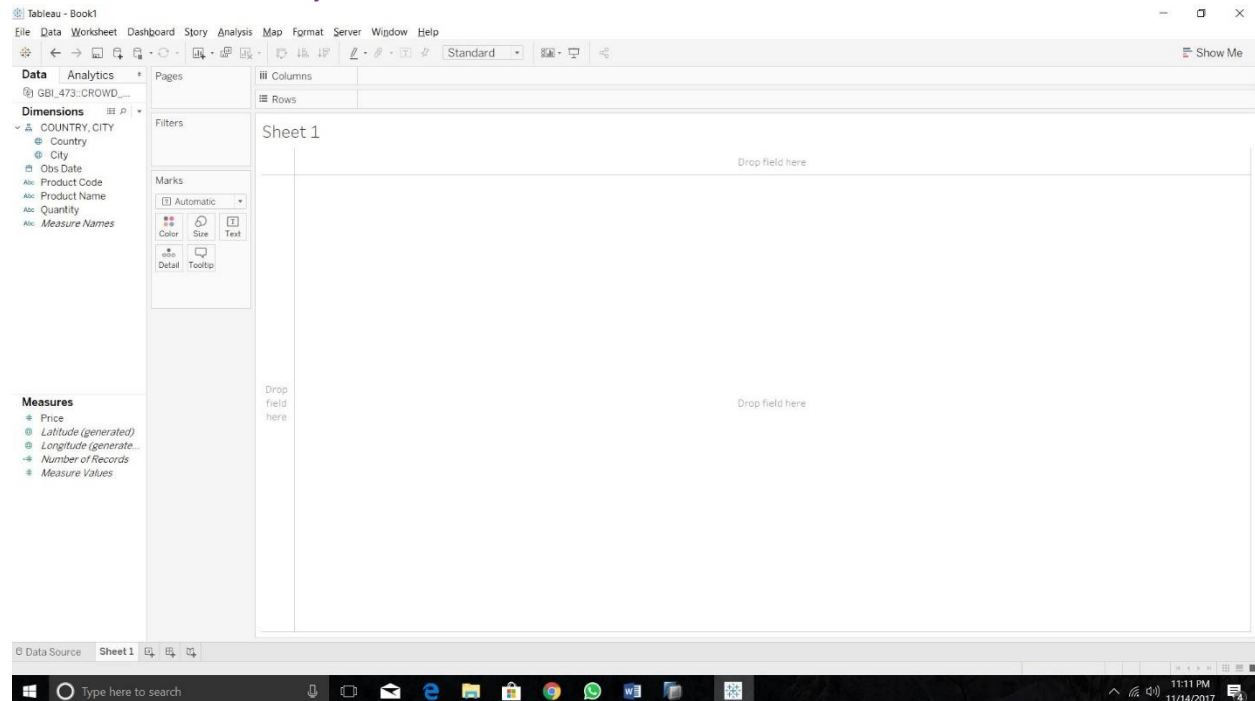
PART II

Connect to SAP HANA – Load the table created previously from SAP HANA into Tableau


1) Steps to load the table from SAP HANA into Tableau:

1.6) Click on Sheet 1, which is located in the bottom left section of the screen. A new pop-up will open, click save.

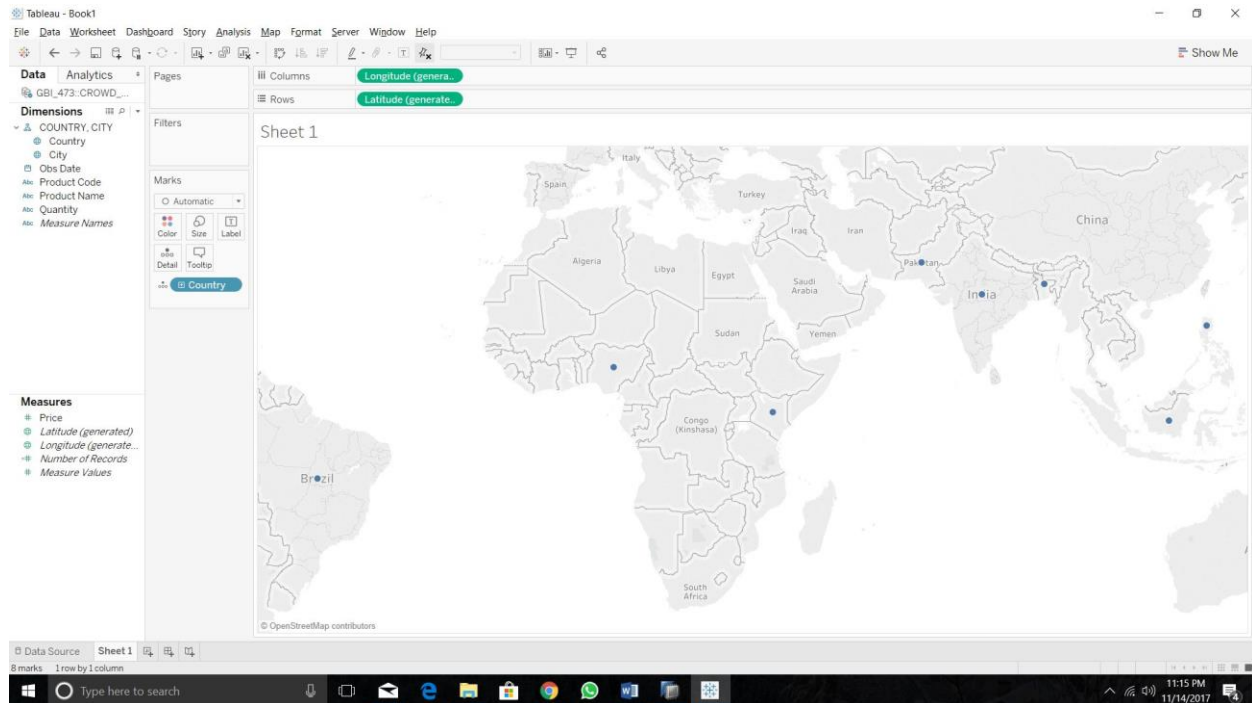
Paste the screen shot of your sheet 1.



2) Plot countries as a map

- 1) Clear the sheet  (in the ribbon) or create a new sheet (at the bottom)
- 2) Drag **Country** from the data window to the canvas
 - a. If you get anything other than a map, undo and try dropping the field **Country** into the large, bottom right rectangle that says “Drop field here”. Alternatively, double click on the field name to bring **Country** out as a map
 - b. Note that the generated Latitude and Longitude were automatically plotted on the Rows and Columns shelves

Paste the Screenshot



3) To analyze Which country has the most expensive average price.

1) Drag **Price** from Measures to the Color shelf (button)

a) This should create a filled map colored on a gradient of “SUM(Price)”

3a). What is the default aggregation for measures?

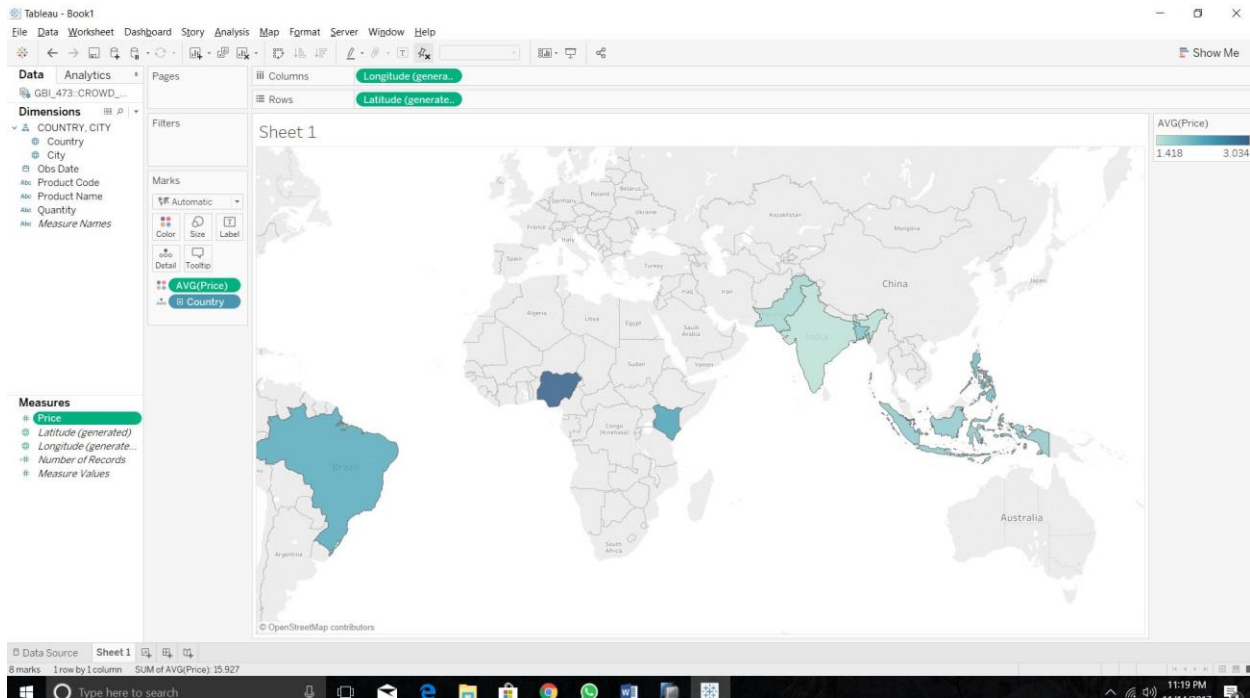
Ans. SUM is the Default aggregation for measures.

2) Right click on the pill on the Marks Card that says “SUM(Price)”

a. Click on the option “Measure(Sum)”

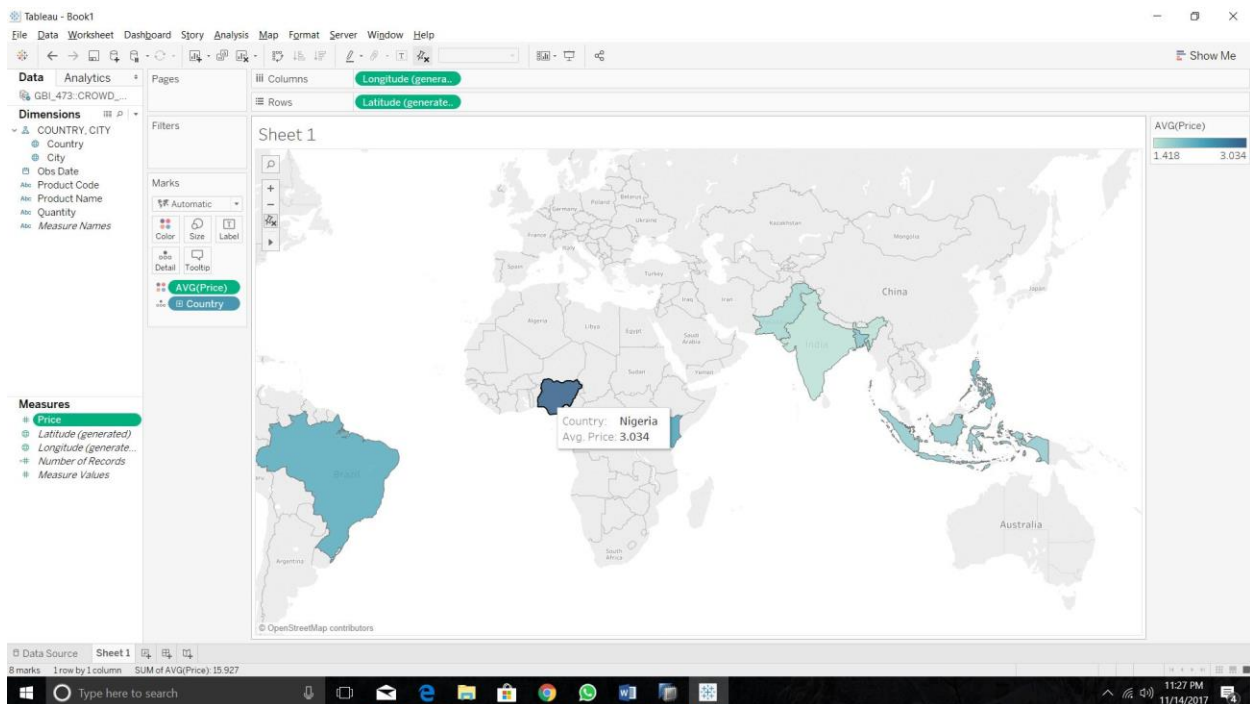
b. Click on “Average” to change the aggregation from Sum to Average

Paste the Screenshot-----



3b) Which country has the highest average price ? (Hint: Hover over the darkest green country)

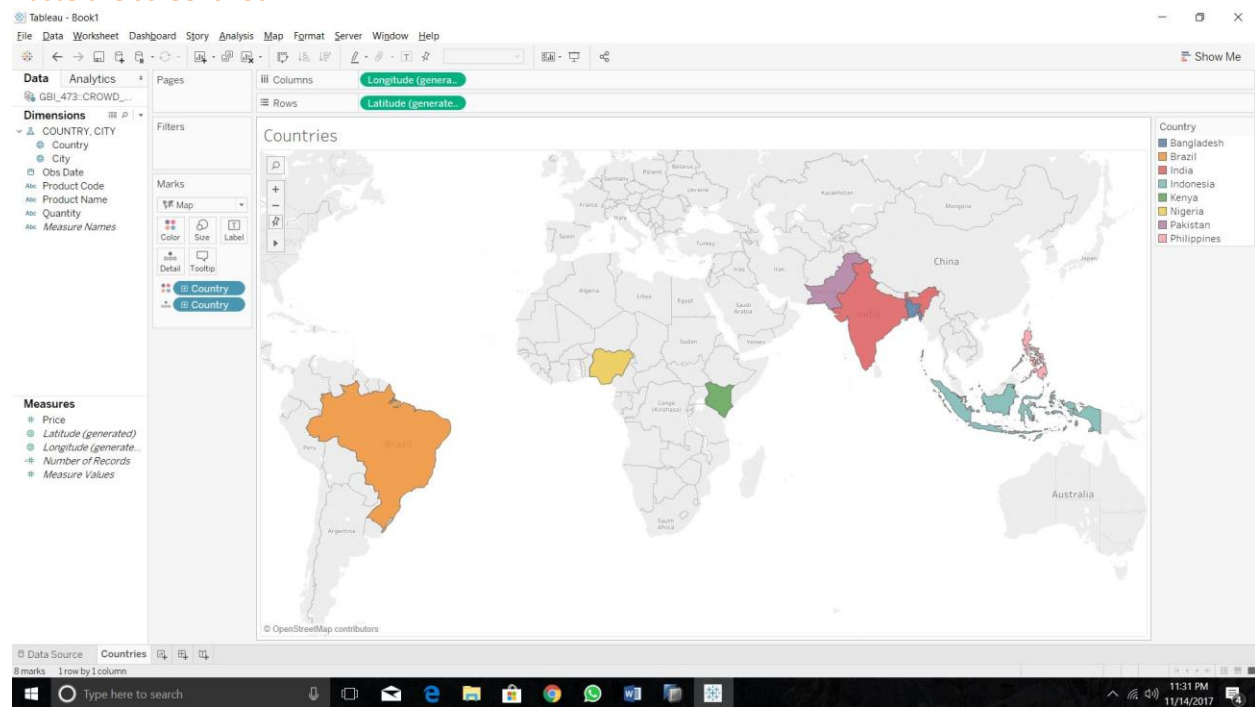
Ans. Nigeria has the highest average price.



4) Make a filled map of countries

- 1) Clear the sheet
- 2) Double click on **Country** to plot the map
- 3) Drag **Country** from the data window to the color shelf
- 4) Select the dropdown on the Marks card and change from “Automatic” to “Filled Map”
- 5) Right click on the sheet tab and Rename the sheet “Countries” and create a new sheet

Paste the screenshot-----

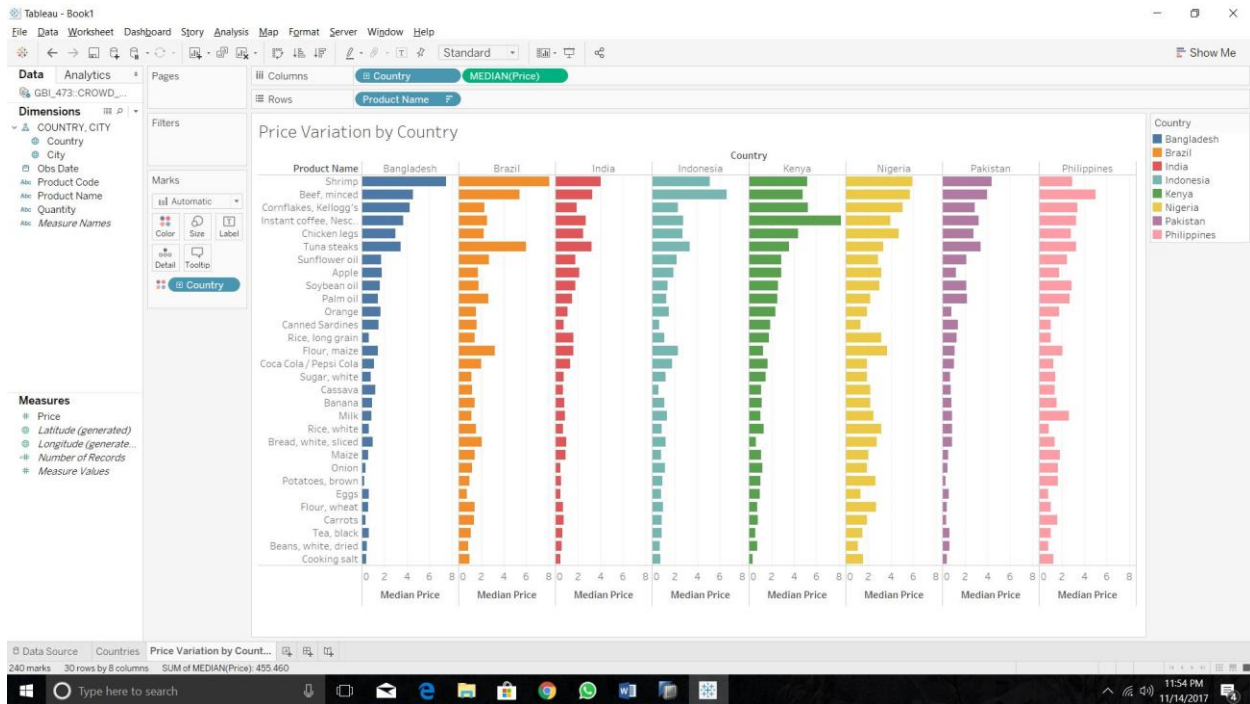


5) To analyze how much variation is there in product prices across each country

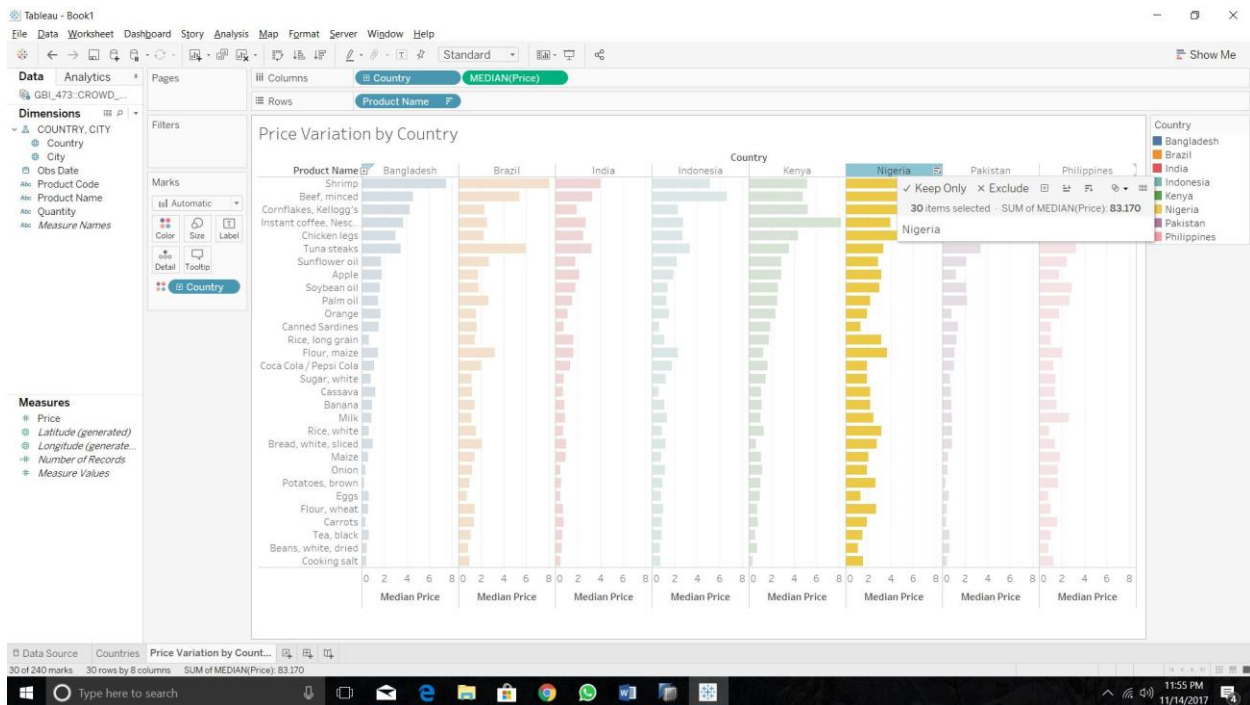
Steps:

- 1) Click on New Sheet.
- 2) Holding down the Control key (Command on a Mac) click to select the fields: **Product Name, Price**
- 3) With those two fields selected, click on the Show Me tab
- 4) Select the Horizontal Bar Chart and click the Show Me tab again to close it
- 5) Right click on the “SUM(Price)” pill on the Columns shelf
 - a. Click on the option “Measure(Sum)”
 - b. Click on “Median” to change the aggregation from Sum to Median
- 6) Hover over the words “Median Price” on the X axis until the Sort icon appears. Click the icon to sort
- 7) Drag **Country** from the Rows shelf to the Columns shelf in front of **Price**.
- 8) Drag a new copy of **Country** from Dimensions to the Color shelf
- 9) Right click on the sheet tab and rename the sheet “Price Variation by Country”

Paste the Screenshot-----



5a) From the pattern, what insight do you get? Which country has higher prices than other countries?
Ans. **Nigeria** has higher prices than other countries.

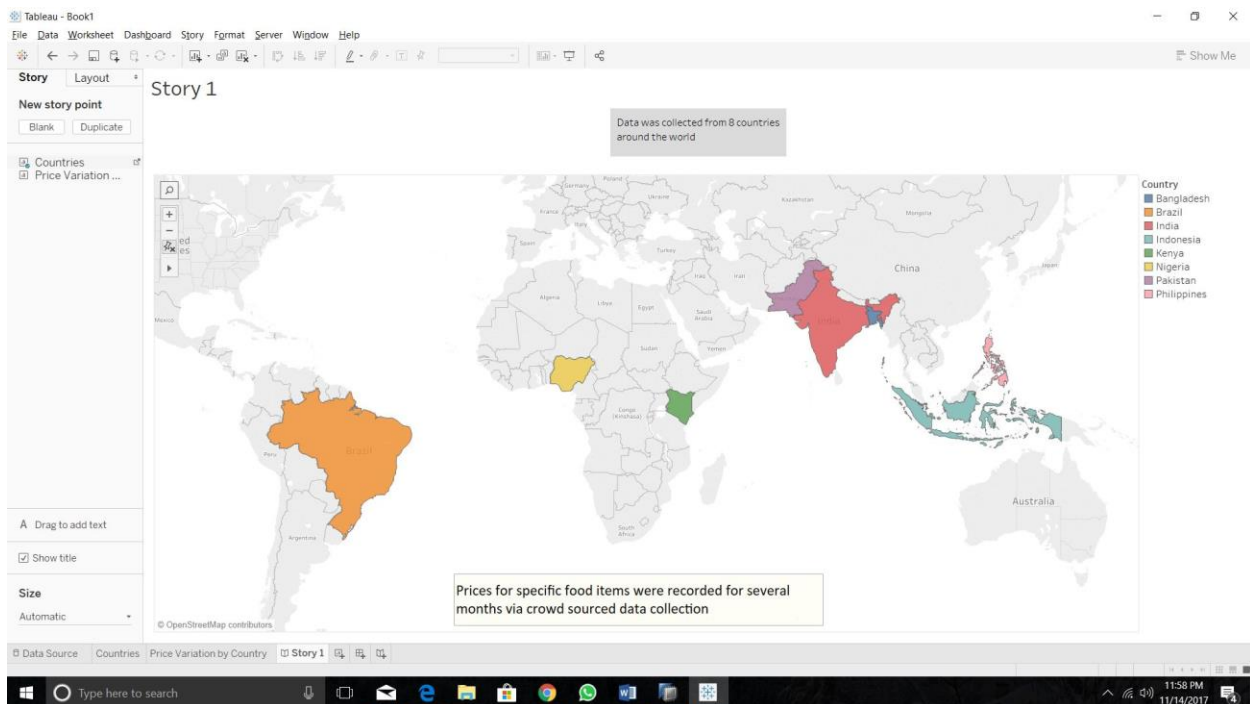


6) Story

I. Create a story and add a point with description

- 1) Click “Story” in the ribbon and select “New Story”
- 2) If necessary, use the sizing menu in the bottom left corner to adjust the size of the story to fit your screen (laptop or automatic)
- 3) Click and drag out **Countries** (Map)
- 4) Click in the navigator box to add a caption for the map
 - a. “Data was collected from 8 countries around the world”
- 5) Click and drag out the Description option from the left pane to add a comment about the map
 - a. “Prices for specific food items were recorded for several months via crowd sourced data collection”

Paste the Screenshot-----



7) Dashboards and Stories

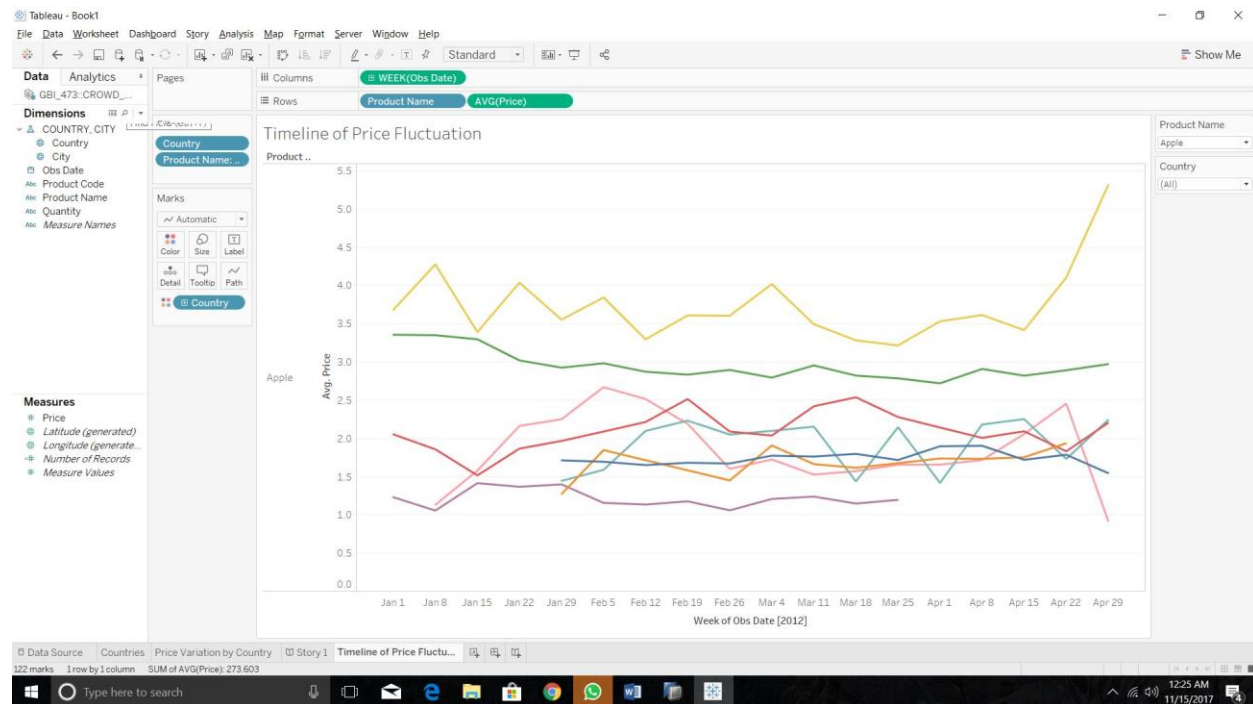
Detailed Steps:

Are there price fluctuations or have prices held fairly steady?

- 1) Create a new sheet
- 2) Drag **Obs Date** to the Columns shelf
- 3) Right click on the pill and select the option “Week Number”
- 4) Drag **Price** to the Rows shelf
- 5) Right click on the “SUM(Price)” pill on the Rows shelf
 - a. Click on the option “Measure(Sum)”
 - b. Click on “Average” to change the aggregation from Sum to Average
- 6) Drag **Country** to Color
- 7) Right click on **Country** anywhere you see it and select “Show Quick Filter”

- a. If desired, click on the caret in the upper right corner of the filter to bring up the menu and select “Multiple Value (Dropdown)”
- 8) Drag **Product Name** to Detail
- 9) Right click on **Product Name** anywhere you see it and select “Show Quick Filter”
- a. Click on the caret in the upper right corner of the filter to bring up the menu and select “Single Value (Dropdown)”
- 10) Right click on the sheet tab and rename the sheet “Timeline of Price Fluctuation”

Paste the screenshot-----



7a) Are there price fluctuations or have prices held fairly steady?

Ans. Yes there are price Fluctuations evident in the Graph for various Products.

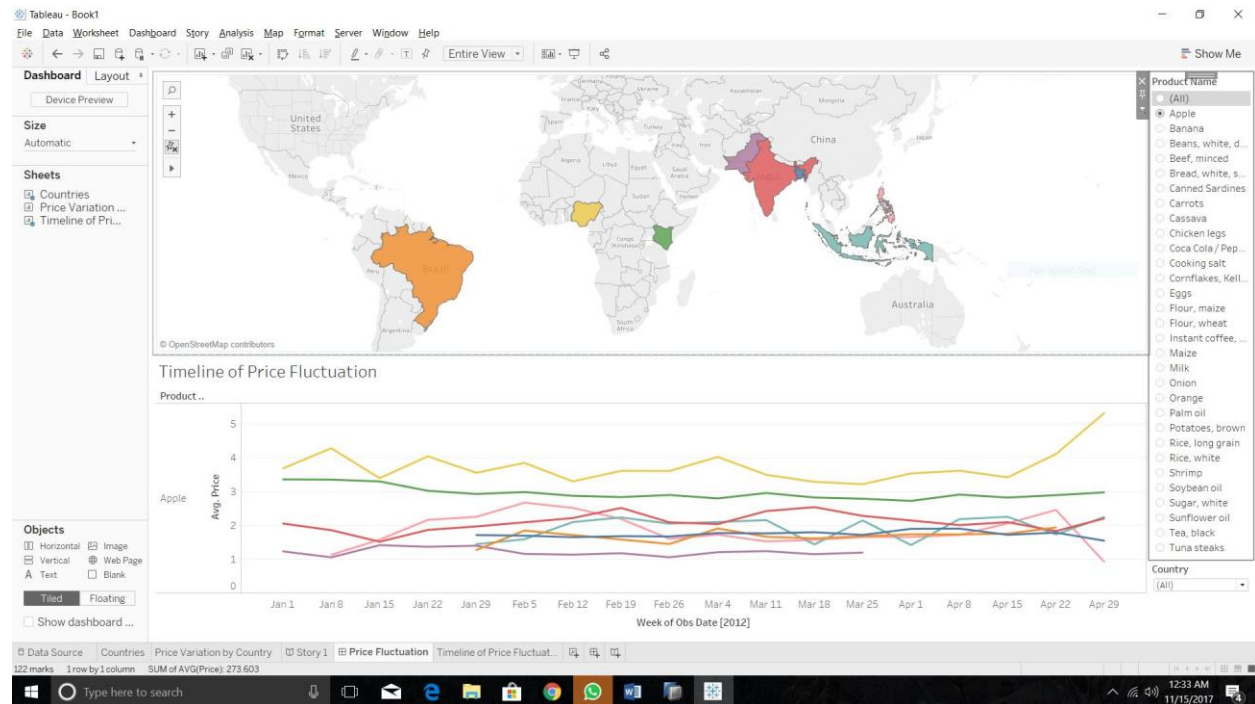
8) Creating Dashboard

Steps:

- 1) Create a blank dashboard by clicking on the tab at the bottom
- 2) Drag out **Countries**
- 3) Drag out **Timeline of Price Fluctuation** to the bottom
- 4) Click on the map to bring up its border
 - a. At the top right corner, click the caret to bring up the menu
 - b. Select “Use as Filter” to set the map as a filter for the timeline
- 5) Right click on the title “Countries” above the map and chose “Hide title”
- 6) Click on the name of the Product Name quick filter to bring up the border
 - a. At the right top corner, click the caret to bring up the menu
 - b. Choose “Single Value (List)”
 - c. If desired, close the Country color legend by clicking to bring up the border and clicking the X

7) Double click on the tab to rename the sheet **Price Fluctuation**

Paste the Screenshot-----



9) Back on the Story

IV. Add another point and finish the story

14) Double click **Price Fluctuation** to bring it out to the story

15) If the dashboard doesn't fit well:

- Go back to the sheet for the dashboard
- At the bottom left corner, open the Size flyout menu
- Select "Fit to Story 1"
- Go back to the story

16) Click in the navigator box to add a caption

a. "Explore the dashboard to see how prices changed over time"

17) Click and drag out the Description to add a caption

- "Click on a country to see just the records for that country"
- "Click on a product (or "All") to change the timeline"

18) Double click "Story Title" to add a title to the story

a. "Variation of Food Prices"

Paste the Screenshot-----

