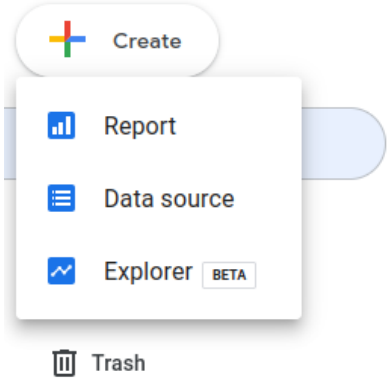
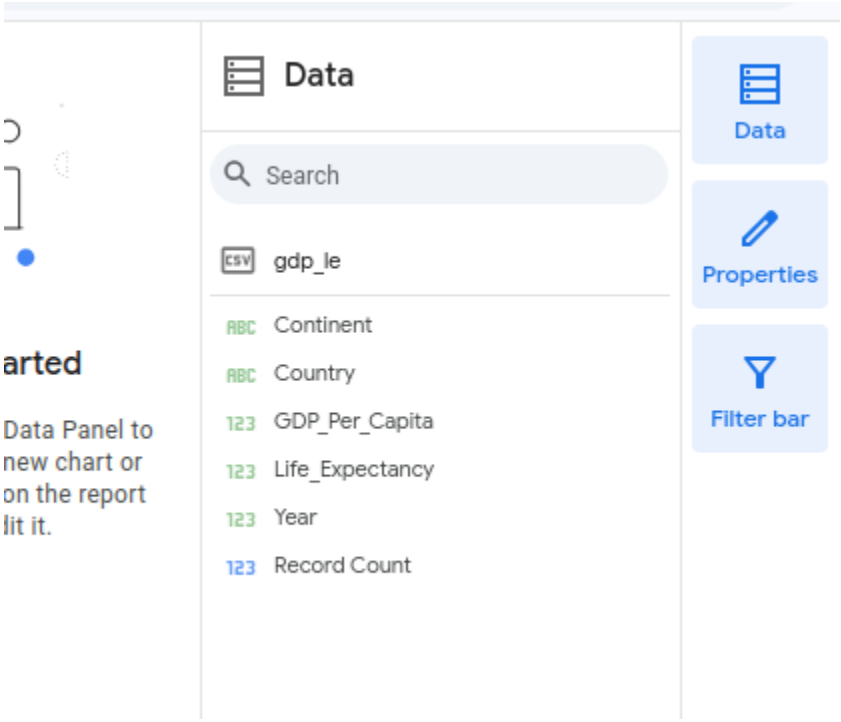
Introduction to Looker Studio: Day 1 Walkthrough

1. Navigate to https://lookerstudio.google.com/. In the upper-left corner, select Create -> Report.

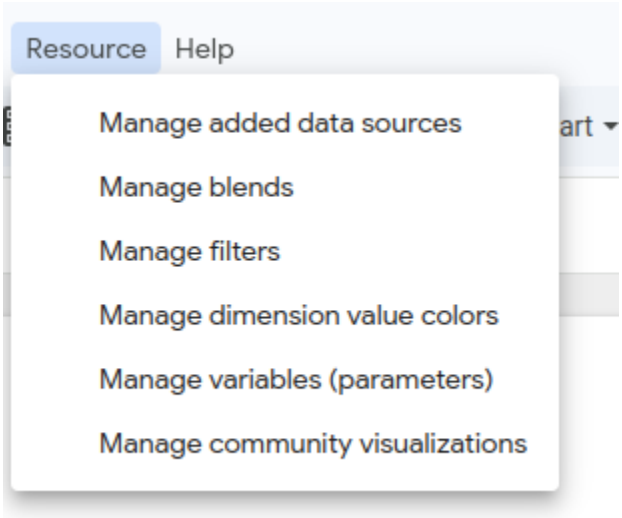


2. The “Add data to report” panel should open. Select “CSV File Upload”.
3. Under Datasets, select “+ Create dataset”. Name this new dataset “gdp_le” and select the gdp_le.csv file. Then click the Add button in the bottom right.
4. Notice that the data you added is now visible in the Data panel on the right side of the screen, along with the data type of each column.

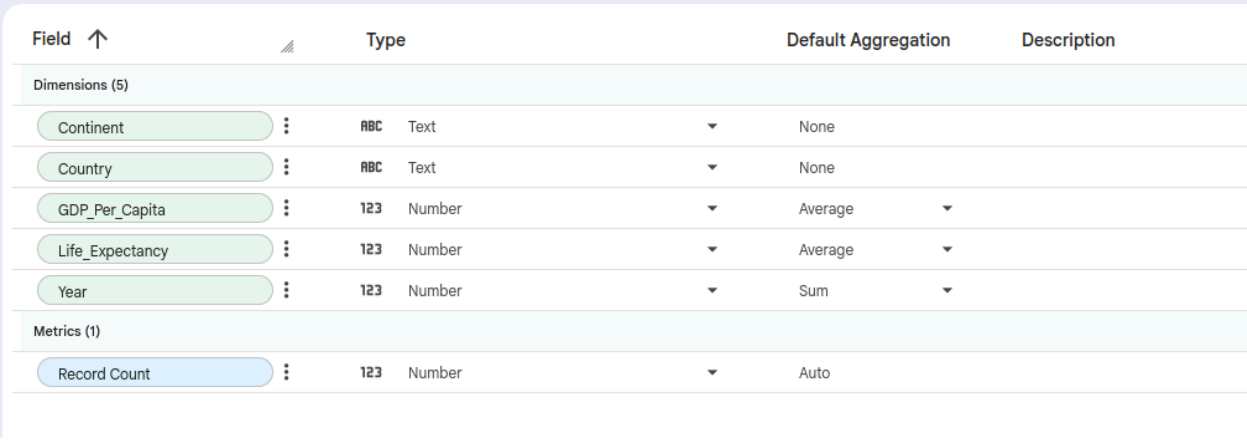


5. Click on the title in the upper left corner of the screen and rename it to “GDP and Life Expectancy”.
6. Let’s add our first chart, a table. Click the Add a chart dropdown at the top of the screen and select “Table”. Drop the table on the canvas.

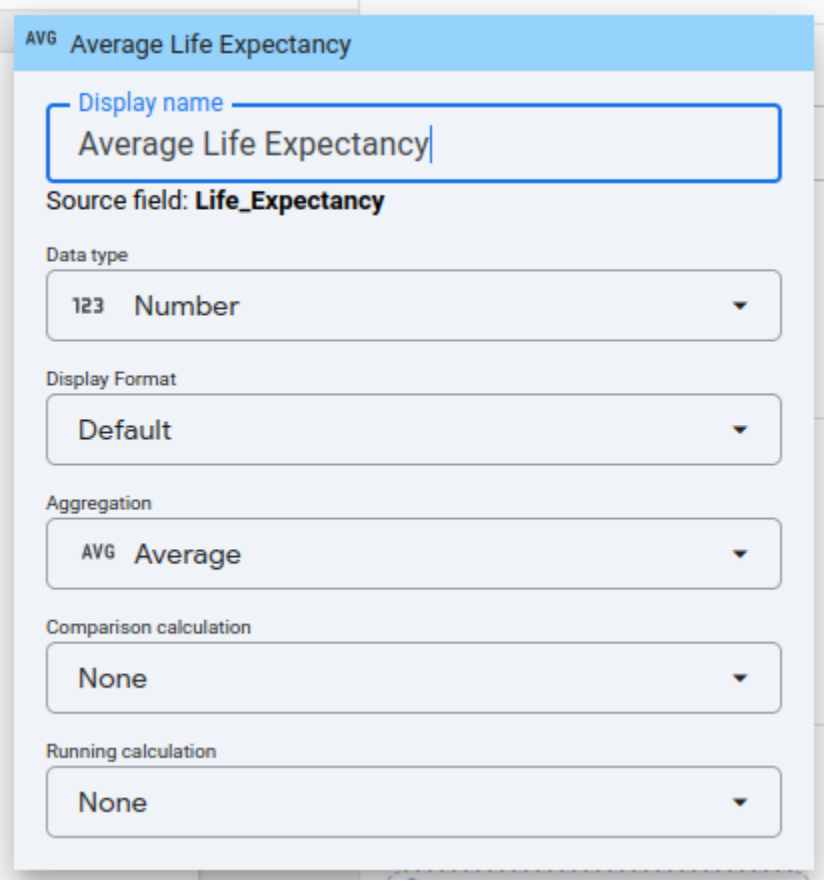
a. Inspect the Table properties on the right side of the screen. What dimension and what metric are being used for this table?
b. We'd like to show the average life expectancy by continent for the year 2022. First, adjust the Dimension so that it shows Continent instead of Country. Then change the Metric to Life_Expectancy. Note that the default aggregation is SUM. There are a couple of ways we can fix this in our chart.
    i. First, you can change the aggregation type by clicking on the "SUM" button to the left of the metric name and change to Average.
    ii. Second, you can change the default aggregation at the data set level. Do this by clicking on Resource on the top toolbar and selecting "Manage added data sources".



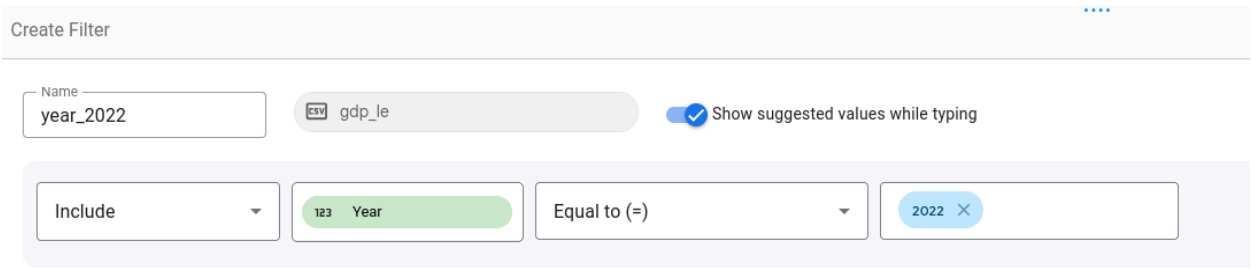
Select "Edit" next to gdp_le. Then change the Default Aggregation for GDP_Per_Capita and Life_Expectancy to Average. Note that this won't automatically change the aggregation in your table, so you may still need to manually change the aggregation at the table level.



iii. After setting the aggregation, again edit the Life_Expectancy metric and change the Display name to “Average Life Expectancy”.



iv. Now, we need to filter so that we’re only seeing data for 2022. Under Filter, click “Add filter” and then “Create a filter”. Name this new filter “year_2022”. Select Include Year Equal to (=) 2022.



v. Next, under “Sort”, sort the table by Continent in Ascending order.

vi. Finally, click the Style tab under the Table properties menu. Notice that there are a lot of ways that you can further customize this table. Remove the row numbers and set the number of decimals displayed for average life expectancy to 1.

Continent ▲	Average Life Expectancy
Africa	63.3
Asia	75.2
Europe	78.5
North America	74.2
Oceania	70.5
South America	73.1

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7. Let's add a second metric to the table. Add in the average GDP Per Capita. Display GDP with no decimals and as currency. Note: you'll have to go back to "Manage added data sources" to adjust the type of GDP Per Capita. Finally, under the Style tab, add a title

Life Expectancy and GDP in 2022

Continent ▲	Average Life Expectancy	Average GDP Per Capita
Africa	63.3	$6,012
Asia	75.2	$26,428
Europe	78.5	$40,252
North America	74.2	$22,621
Oceania	70.5	$13,235
South America	73.1	$18,017

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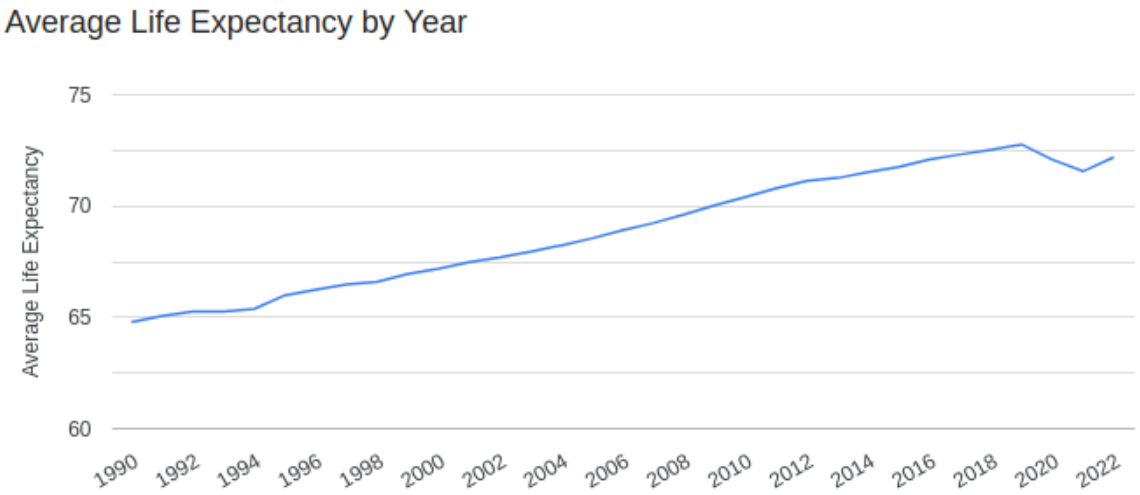
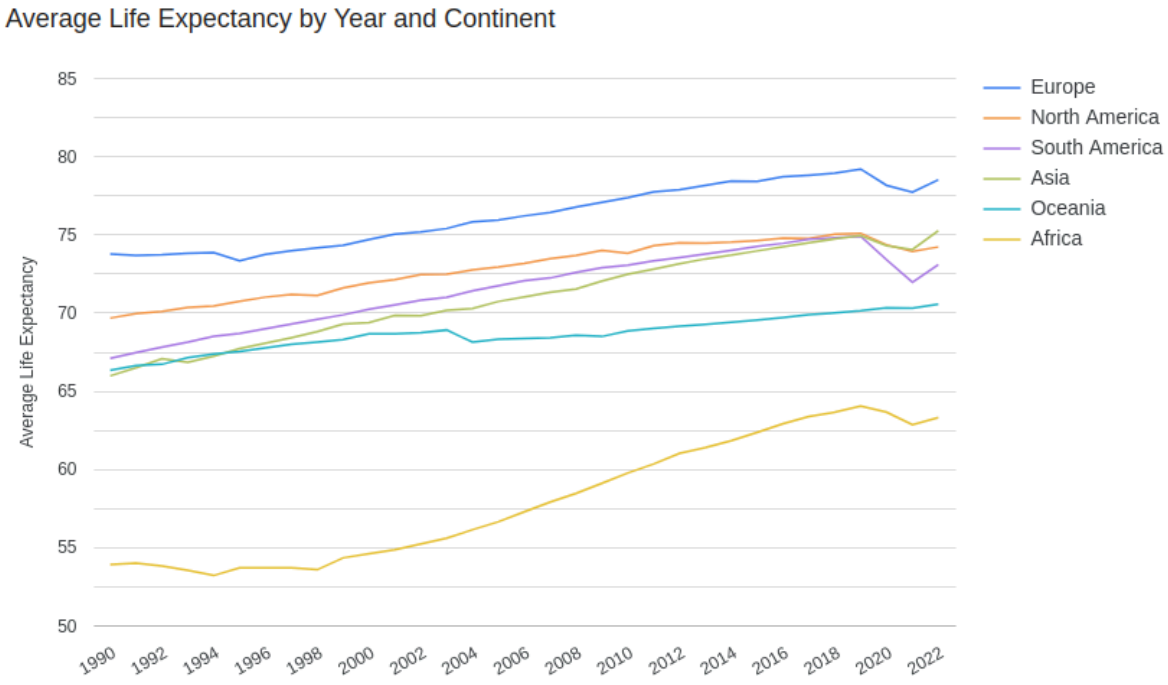
8. In the top Page menu, add a New page.
9. On this new page, add a line chart that shows the average life expectancy over time. Adjust the settings to try and match the chart below.



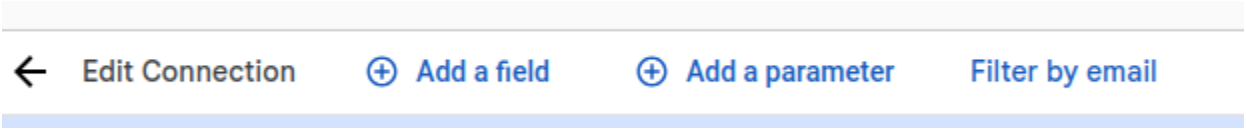
10. Now, let's adjust the plot so that we can see how average life expectancy changed over time broken down by continent. Go back to the properties for your line chart. Under dimension, notice how there is a "Breakdown dimension". This allows us to split out our data across another dimension to see how trends vary. Add continent as a breakdown dimension. Then adjust the style to try and match the chart below.



11. Let's add a control to our chart. At the top of the screen select "Add a control" and add a Drop-down list. Place this above the line chart. Under the drop-down list properties, set the control field to Continent. You can remove any Metrics that are selected. Notice how this dropdown controls the line chart.

a. Note: by default, controls affect all charts using the same data source on the same page at the control. There are a couple of ways you can modify this behavior.
    i. First, if you want to have a control affect the entire report, you can select it and then at the top of the page, choose Arrange -> Make report-level.
    ii. Second, if you want the control to affect only certain charts, you can select the control and any charts and then choose Arrange -> Group.

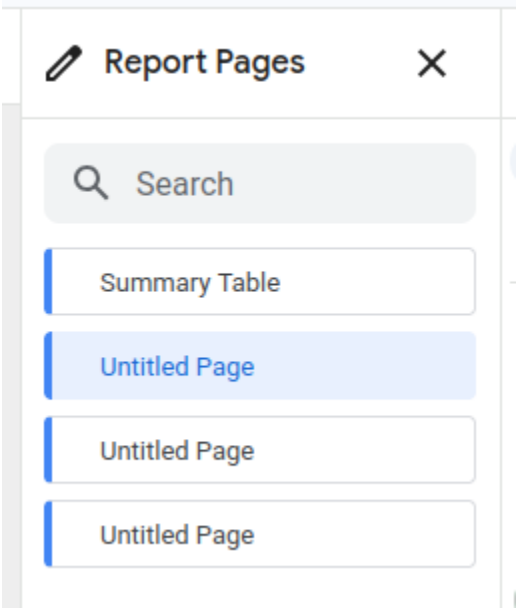
12. Now, add a new page. On this page, we'll make a filled map.
    a. In order to build this map, we'll need the Country column to be set as a Country type. You can do this by going under "Manage added data sources" and changing the type.
    b. Build a map showing the gdp per capita per country in 2022. Hint: use the filter you created earlier for this.
13. Let's add a couple of calculated fields to our data. Go back to Resource -> "Manage added data sources" and click the "EDIT" button next to your data source. At the top of the panel, select "Add a field".



    a. First, we'll add a GDP Per Capita (Thousands) column.
        i. Name this new field "GDP Per Capita (Thousands)", and for the formula use GDP_Per_Capita/1000

        ii. Then add another field, but this time select "Add group". Use this to create an "GDP Group" field whose value is "Low" if GDP_Per_Capita is less than $10,000, "Middle" if GDP_Per_Capita is between $10,000 and $30,000, and "High" otherwise.
        iii. You can also create this GDP Group using the "Add calculated field" option. Do this with the same cutoffs but using a CASE WHEN expression.

    b. Then, make a bar chart showing the average life expectancy by GDP Group for the year 2022.
14. Now, let's adjust the look of our report. In the top menu, select "Theme and layout". Here you can select a pre-made theme for your report.
15. To see what the report would look like to someone viewing it, click the View button in the upper right corner. To return to Edit mode, click the Edit button.
16. You may notice that all of our pages are untitled. Under the Page menu at the top of the screen, click "Manage pages", which will add a panel where you can edit the page names.



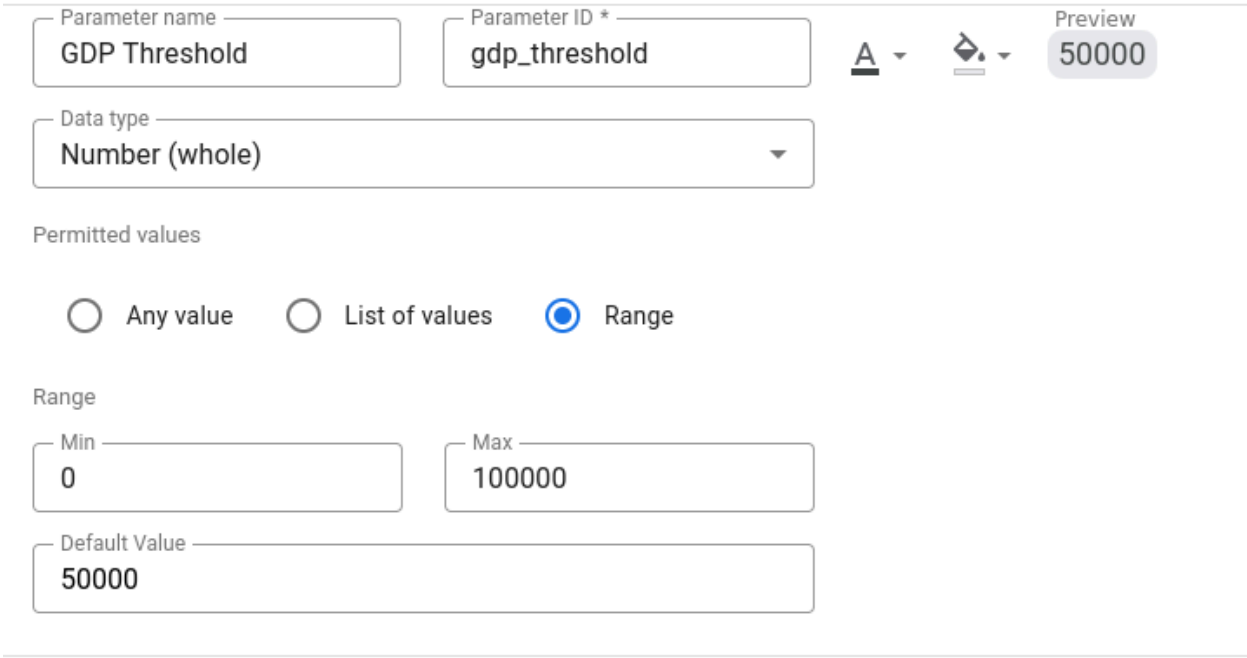
17. Finally, we can share the report in a few different ways.
    a. First, you can download the report as a static PDF file. Note that this loses any interactive elements that you created.
    b. You can also invite people either by adding their email address or by creating a link. Note that you can select whether this person can View or Edit the report.

Optional: Advanced Features

The walkthrough above showed us some of the basic ways of building a report in Looker Studio. Let's now look at some of the more advanced ways of building your report.

1. We've already seen how to create calculated columns, but let's now see how we can add something else to our data, a **parameter**. Let's say we want to create a visual that will show how many countries there are above a certain GDP value and we want this value to be dynamic. We can use a parameter for this task.
    a. Create a new page.

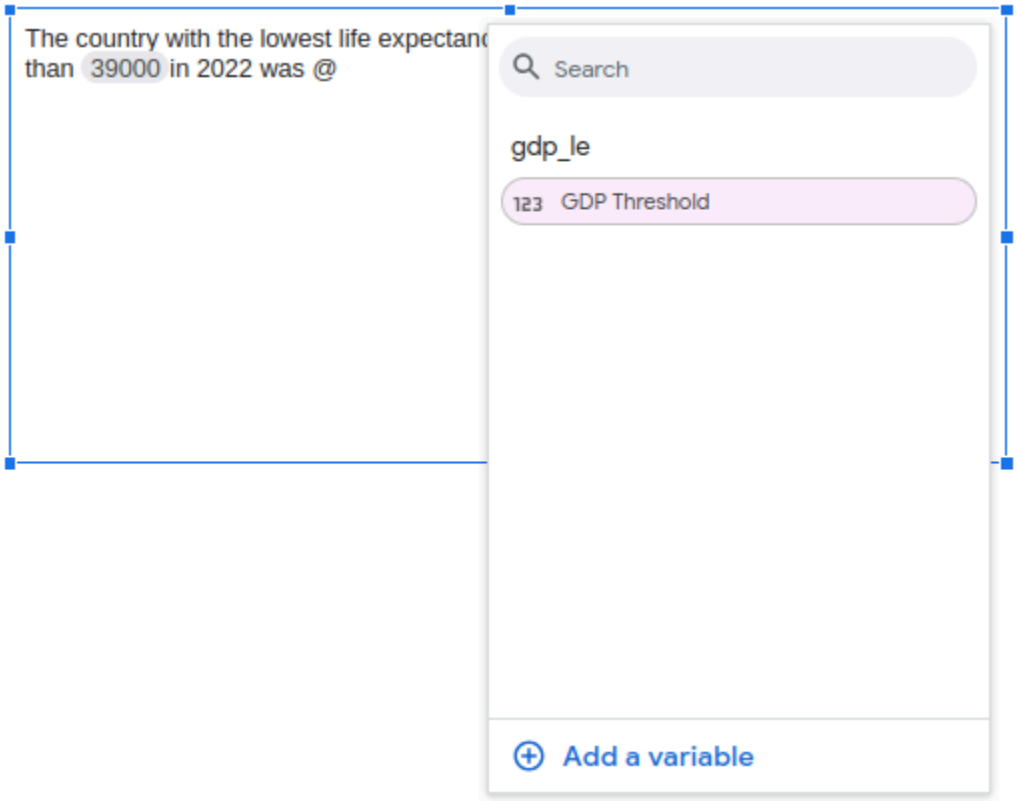
b. At the bottom of the Data panel, select “Add parameter”. Name this parameter GDP Threshold and set the Data type to be Number (whole). Under permitted values, select Range and set Min to 0, Max to 100000, and default to 50000.



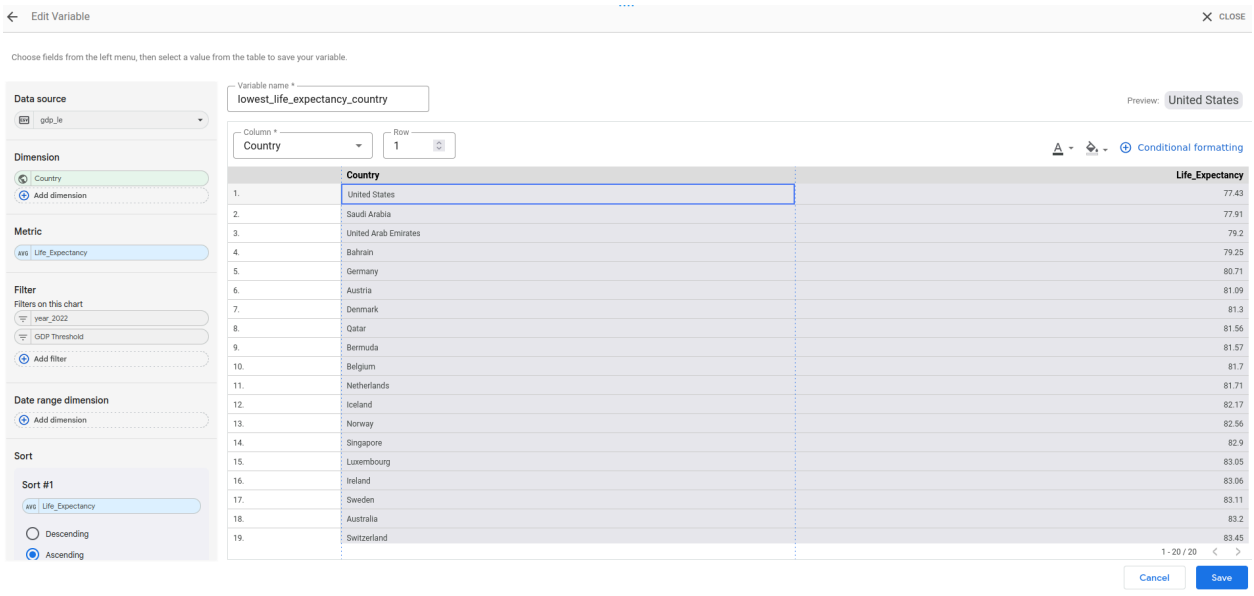
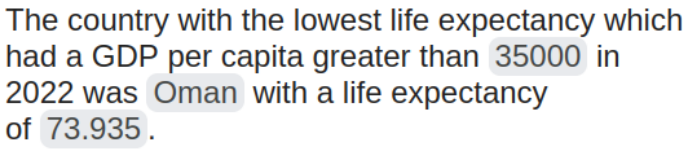
c. We can use this new parameter to create a calculated field that we’ll use for filtering. Create a calculated field named “GDP Above Threshold” which checks whether the GDP_Per_Capita column is above our GDP Threshold column.
d. Create a filter which checks that the GDP Above Threshold column is True.
e. Make a bar chart that counts the number of countries per continent which have a GDP above the threshold in 2022. Note: You’ll need to apply two filters for this.

2. Now, let’s say we want to be able to adjust this threshold. We can do this by adding a control.
   a. Add a slider control above your bar chart. Set the control field to GDP Threshold.
   b. Observe how adjusting the slider changes what is displayed in the chart.
   c. We can also reference the parameter in a text box. Click the Text button at the top of the screen and add a text box above your chart. Add “Number of Countries with GDP per Capita Over @GDP Threshold”. Note that the @ allows us to reference our parameter value. Notice how the text will change as you change the value of the parameter.
3. Finally, we can create **variables** to show the result of a query which returns exactly one value. Let’s say we want to display the country with the lowest life expectancy whose GDP is greater than the GDP Threshold we select.
   a. Add a text box to the current page.

b. Start by typing “The country with the lowest life expectancy which had a GDP per capita greater than @GDP_Threshold in 2022 was @” You should be given the option to add a variable. Click “Add a variable”.



c. In the Create variable panel, first, set the variable name to “lowest_life_expectancy_country”. Then select both filters so that we’re looking at 2022 and countries with GDP above the selected threshold value. Set the Dimension equal to Country and sort by Life_Expectancy in ascending order. Make sure that you’re grabbing the first row. Then save your variable.



d. Now, you can finish the text box, referencing your newly created variable. You can also create a variable with the same settings but grab the life expectancy value.