PACE INFORMS

Thank you to everyone who came to our PowerBI workshop! For those who couldn't attend, or would like to review what we covered, we have summarized the whole workshop in this document for you!

What is PowerBI?

PowerBI is a data visualization software product developed by Microsoft with a primary focus on business intelligence. Allowing non-technical analysts and end-users to convert data into understandable, interactive graphics.

How do I access PowerBI?

Pace students can gain free access to the PowerBI app through Citrix Workspace at "https://virtuallab.pace.edu/Citrix/PaceWeb/", or click here, and sign in with Pace credentials. This will NOT download the actual software, but will open a free, full-featured version of PowerBI in your desktop browser as another tab.


Getting Started on PowerBI

Firstly, open PowerBI using the link here, and log on with Pace credentials. Once you do the two-step verification with Duo, you should be opened to a page like this. Scroll down until you see a page like this:
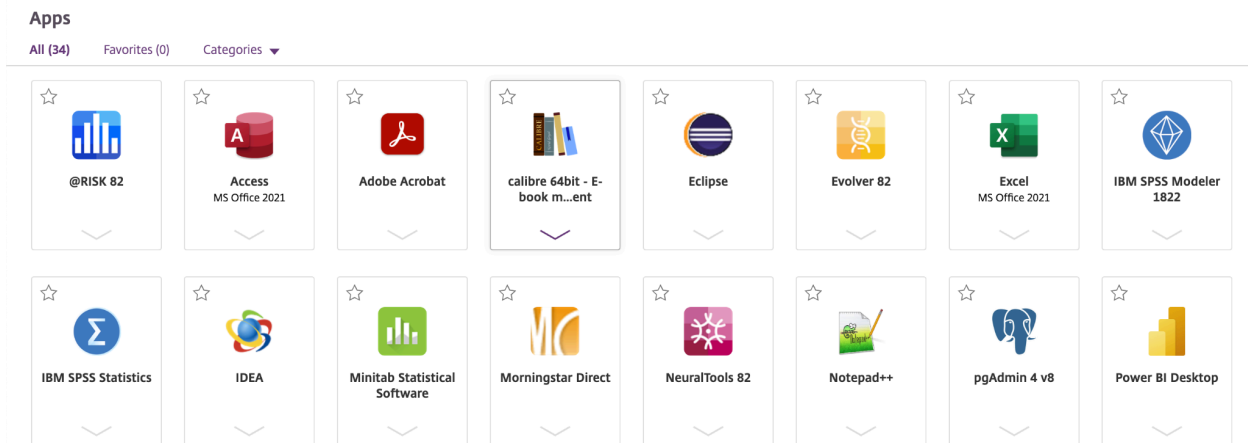
Click on Open under the Actions tab. From there, it will load PowerBI in another tab on your browser.

Once PowerBI is loaded in a new tab, click on report,
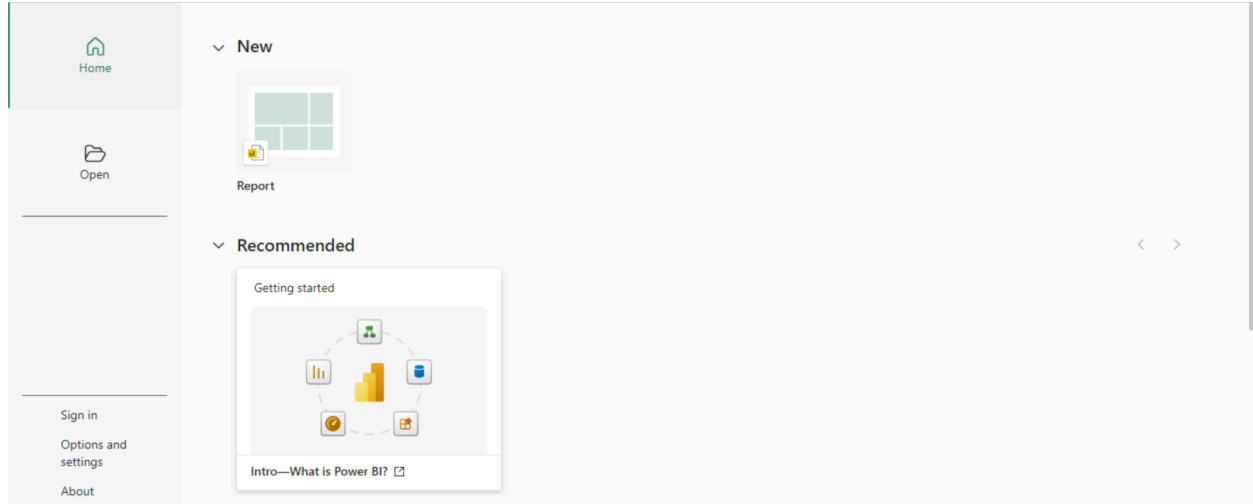
Once you click on Report, it will load a new dashboard (the workspace in PowerBI). In the dashboard a report (a file that contains pages) and a page (a single view of data you will create a chart within). It should look like the picture below.
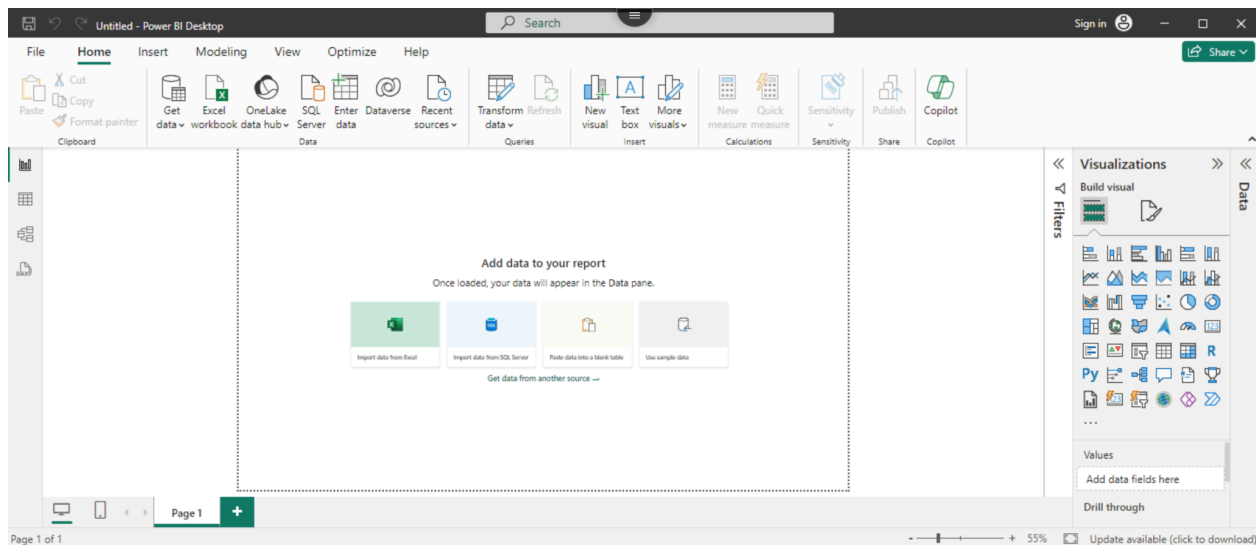
Now it's time to upload our data! Hover over the three lines in the center of the screen until the symbol changes. Next click on that symbol.
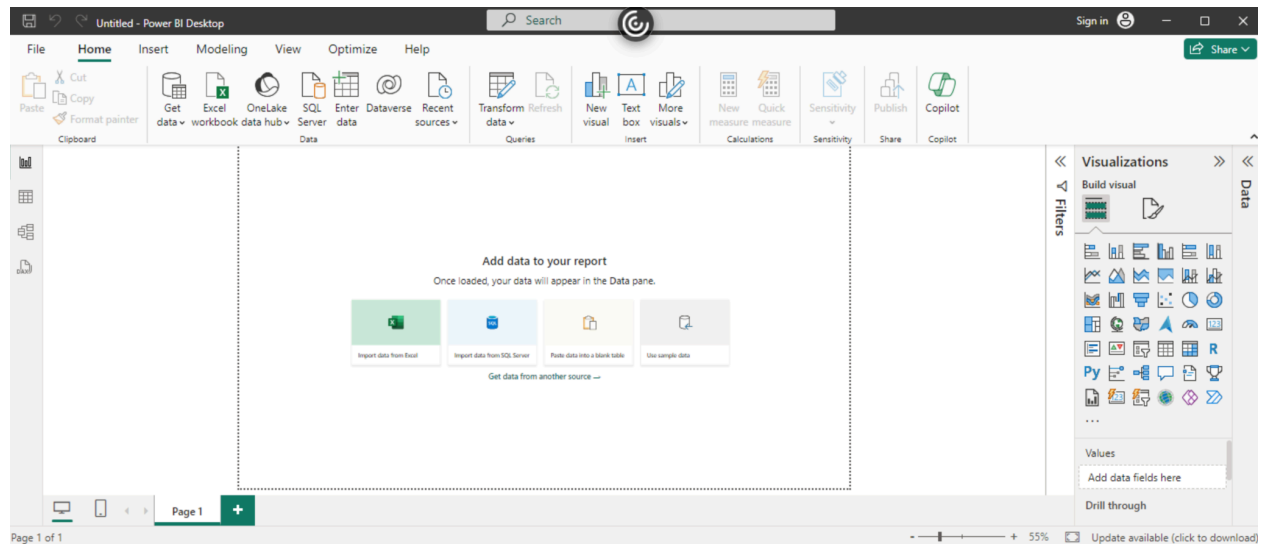
Now, click on the upload button next to the clipboard to access our dataset. A window will open where you choose the file to upload from your computer. Choose christmas_movies.csv. Save it to 'This PC' then choose 'Desktop'
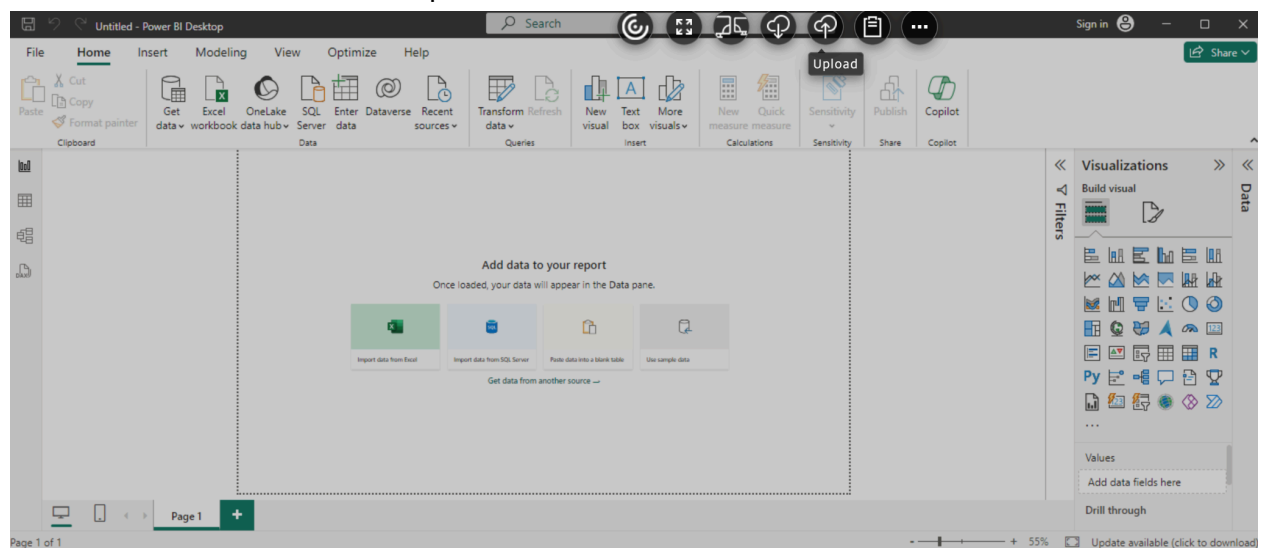
Once you have uploaded the dataset click on 'Get Data' in the home section of PowerBI. A new window will appear looking like the image below. Next, click on Text/CSV and press connect. The same window from when we uploaded it will appear. Go to where you saved it in the virtual lab. Now we're all setup so let's begin
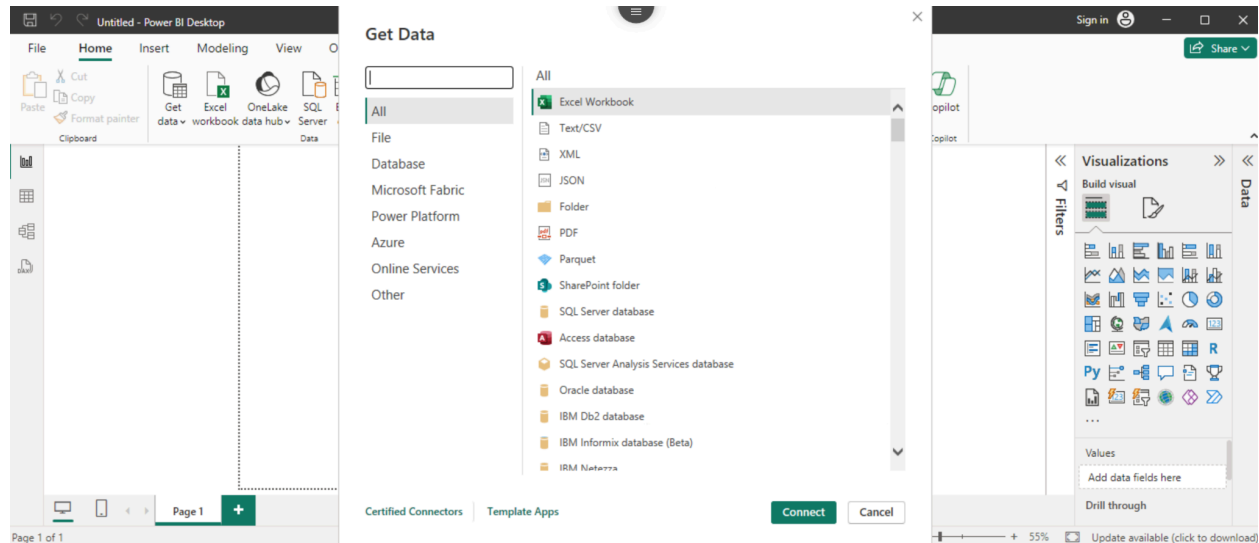

Bar Chart 1

The first chart we will create in PowerBI is a bar chart to visualize the top 5 movies with the longest runtime.

First, in your data tab, click on the arrow next to 'christmas_movies'. It should reveal all the columns within your dataset. Now, in the visualizations tab, click on the 'clustered column chart'. Once clicked, an empty visual will appear on your screen.
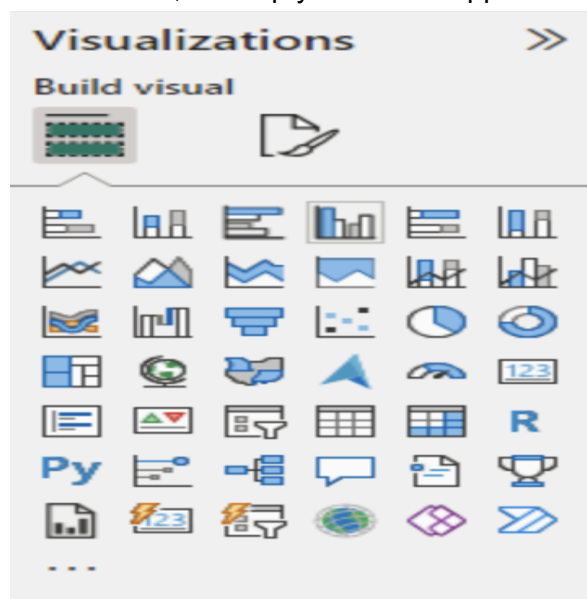
Graph 1: Bar Chart - Top 5 Movies with the Longest Runtimes

To create this visualization in PowerBI, start by navigating to the **Fields** pane on the right side of the screen. Drag the **Movie Title** field to the **Y-Axis** (or to the Columns section in the Visualizations pane). Then, locate the **Runtime** field and drag it to the **X-Axis** (or to the Rows section). Once both fields are set, click the ellipsis on the **Runtime** graph. Select **Sort Axis** then **Sort Ascending** to arrange the movies by runtime, from the shortest to the longest.
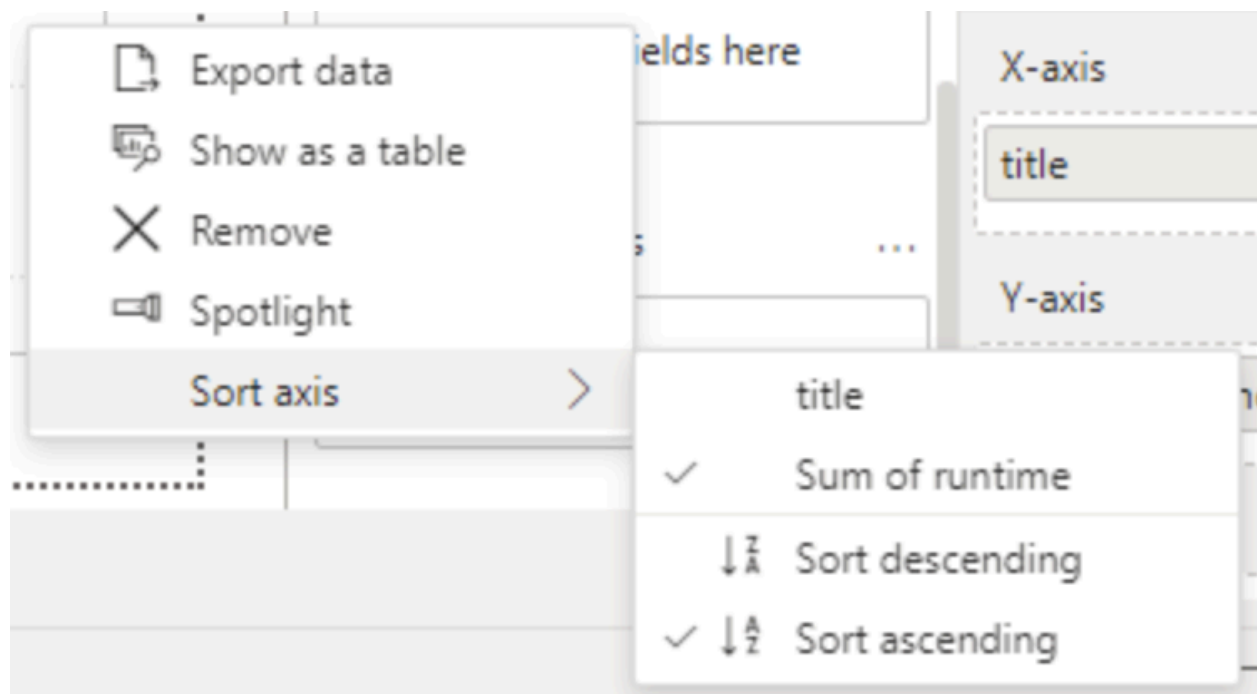
Next, add a filter to display only the top 5 movies. To do this, drag the **Movie Title** field into the **Filters on this Visual** area. In the filter settings, choose the **Top N** option, set the value to **5**, and base the filter on the **Runtime** field. Finally, enhance your chart by selecting the bar chart visualization from the Visualizations pane and formatting it as a horizontal bar chart. Turn on

data labels to display the runtime values directly on the bars for added clarity.

title

top 5 by Sum of runti...

Filter type ⓘ

Top N   ⌄

Show items

Top   ⌄ | 5

By value

Sum of runtime   ⌄ ✕

Apply filter

Graph 2: Column Chart - Movies with the Highest Ratings

To build this chart, drag the **Movie Title** field to the **X-Axis** and the **Rating** field to the **Y-Axis**. Then, in the **Values** section of the Visualizations pane, click the drop-down menu next to the **Rating** field and select **Sort Descending** to arrange the movies by their revenue, from highest to lowest.

Optionally, refine the visualization by adding filters. Drag the **Rating** field into the **Filters on this Visual** area and apply a condition, such as only showing movies with rating above a certain threshold. For better presentation, select the column chart visualization from the Visualizations pane and add clear axis titles. Use a color theme that matches the Christmas dataset to make the chart visually cohesive and engaging.

Graph 3: Line Graph - Number of Christmas Movies Released Each Year

Start by dragging the **Release Year** field to the **X-Axis** and the **Movie Title** field to the **Values** section in the Visualizations pane. Ensure the aggregation for **Movie Title** is set to **Count** so it calculates the number of movies released each year.

X-axis

release_year ∨ ✕

Y-axis

Count of title ∨ ✕

Next, ensure the **Release Year** field is grouped by year. If needed, click the drop-down menu next to the **Release Year** field in the **X-Axis** and select **Year** under the grouping options.

To enhance the visualization, choose the line chart visualization from the Visualizations pane. Add a trendline by enabling it in the **Analytics** pane (accessible in the Visualizations settings). Use a consistent color for the line that aligns with the theme of your dataset and add markers for

clarity at each data point, showing the number of movies released in specific years.
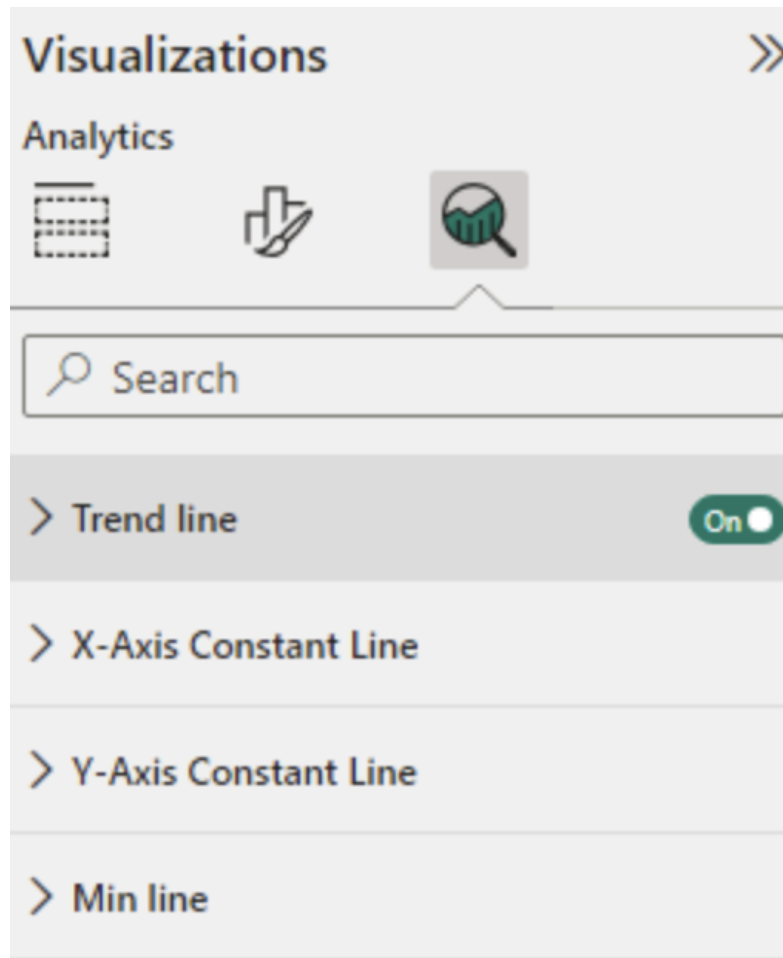
Try It Yourself: Bar chart

I will start you off with some Power Query, a powerful tool in PowerBI and Microsoft Excel that helps you to transform your data.

Question:

What were the movies with highest revenues? And the movies with the lowest? (Top and Bottom 5)

We hope that you found this workshop informative and we are looking forward to hosting more this semester! This was the last workshop for the semester, thank you so much for attending!
Follow our Instagram @informs_pace

Best,
INFORMS

Example Dashboard:

https://quizizz.com/admin/quiz/674b2dabad40345edb2b238b?source=live_dash_game_complete&gameType=live&players=0