Activity : Exploring Google Trends

Objective :

To get in the habit of separating the what from the why when it comes to talking and writing about data.
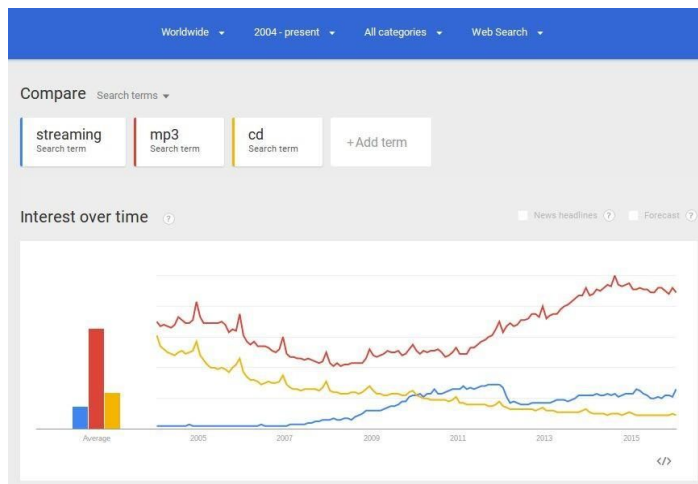
What's a Trend?

When you post information to a social network, watch a video online, or simply search for information on a search engine, some of that data is collected, and you reveal what topics are currently on your mind. When a topic is quickly growing in popularity, it is often said to be trending, but there are many different trends or patterns we might find in this data, including historical trends. These patterns might help us to identify, understand, and predict how our world is changing.

Introduction :

- Draw a distinction between describing what the data shows and describing why it might be that way.
- Describe connections and trends in data separate from drawing conclusions.
- Today we're going to look at a tool - **"Google Trends"** which visualizes data taken from Google search histories all around the world from the past several years.
- Search trends are used in a variety of fields in order to understand what topics are most popular across the country and world.
- We are going to start thinking about how to tell stories with data, what data we need, and how best to use and present it.

Using Google Trends :

You will be using Google Trends, which is a tool that allows you to visualize data about search history across different times and locations. You will be looking for interesting patterns, trends, or relationships between multiple trends and try to tell the story that pattern is showing.

- Access it here: https://www.google.com/trends/

- To get started, you want to "Explore" a trend of your own.
- Find the Explore text box or go to the Explore section of the site
  https://www.google.com/trends/explore

Problem Statement :

- Spend some time exploring the tool : Do your first comparison of trends.
  You can enter any two or three things you like. Understand what is being represented:
  Take a moment to actually understand what the Google Trends data is showing.
  Respond to the questions below. You can find answers on the Google Trends Help Page.
  - ❏ Where does Google Trends data come from?
  - ❏ How is Google Trends data adjusted? What does a value of 100 mean?
- Work individually to identify topics that you wish to examine in greater detail. You might start by looking up:
  - ❏ a current event / social movement / hashtag / meme
  - ❏ your favorite hobby / movie / song / book / celebrity
  - ❏ popular apps / businesses / products / websites

  As you try different terms, here are some things to look for:
  - ❏ Long-term trends: Is your topic becoming more popular over time? Less?
  - ❏ Short-term trends: Does your topic suddenly spike or dip in popularity?
  - ❏ Patterns: Does your topic follow some predictable repeated pattern?
  - ❏ Relationships: Does one topic increase or decrease in popularity when another one   does?
  - ❏ Zoom-in: You can narrow your search to particular regions, times, and categories

Note : Avoid data-driven decisions or interpretations based on flawed assumptions. (Example : Google's Flu Project : http://time.com/23782/google-flu-trends-big-data-problems/)

Result : Tell a Story

As you explore, you should eventually **settle on one topic** you find particularly interesting. For your chosen topic, **be prepared to present or share** what you found, responding to the following:

- **Describe** what terms you compared and whether you narrowed your search by using filters.
- **Accurately describe** what the charts or other visualizations are showing.
- Come up with a **possible story or explanation of why** the trend you described might have happened.

Prepare an answer to the following questions (could be asked by the Course Instructor) :
- Is the story told by you supported by the chart?
- Are there other ways to interpret the chart?
- Are there additional terms you'd also like to see shown on the chart?