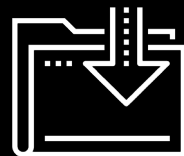


Data Boot Camp
Lesson 1.1





WELCOME

The Rise of Data



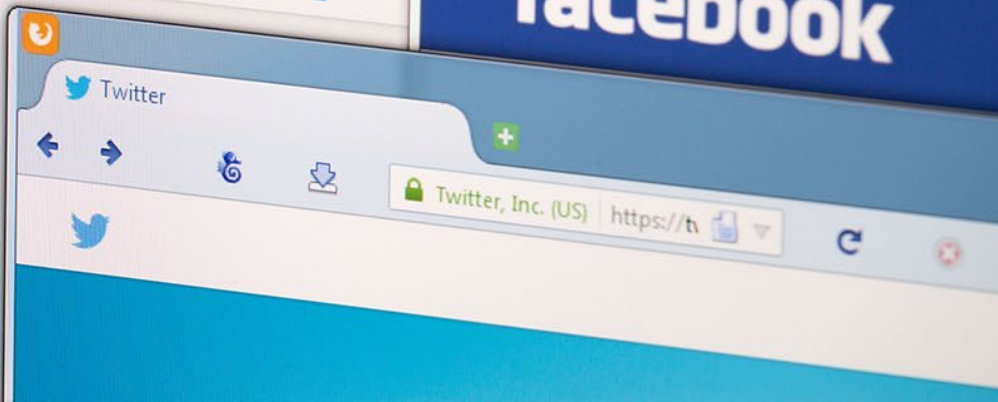
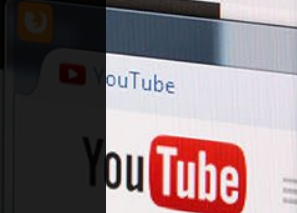
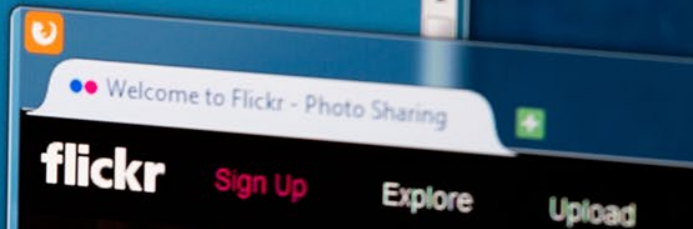
Why is **data analytics** such a **hot** skill these days?

1

Explosive Growth in Digitized Data (Creation)



Instagram



2

Explosive Growth in Analytic Tools (Synthesis)

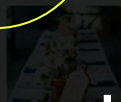


Best Restaurants in San Francisco, CA

Showing 1-20 of 7848

3

\$ \$ \$ \$ \$ Open Now Order Delivery Order Pickup Make a Reservation All Filters



1. Aracely Cafe

113 reviews

\$\$ · American (New), Venues & Event

This restaurant takes reservations

Get 7% Cash Back when you dine here

Find a Table

Enroll in Cash Back



2. Derm Restaurant

34 reviews

\$\$ · Thai

This restaurant takes reservations

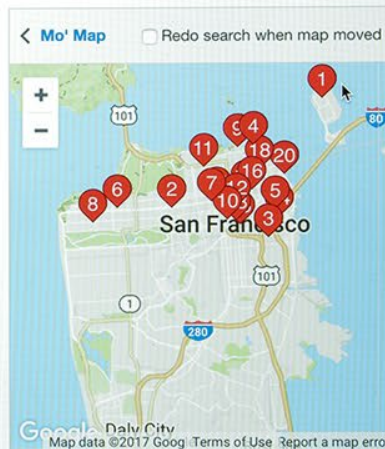
This restaurant accepts pickup orders

Find a Table

Start Order

401 13th St
San Francisco, CA 94130
(415) 985-7117

Laurel Heights
3226 Geary Blvd
San Francisco, CA 94118
(415) 379-4549



Ads by Google

salutemarinabay.com

Salute E Vita - Italian Food - Waterfront Dinning

Enjoy authentic Italian dishes with breathtaking views of San Francisco Bay.
1900 Esplanade Dr. Richmond, CA

Accelerating
Search for
Actionable
Insight
(Value)

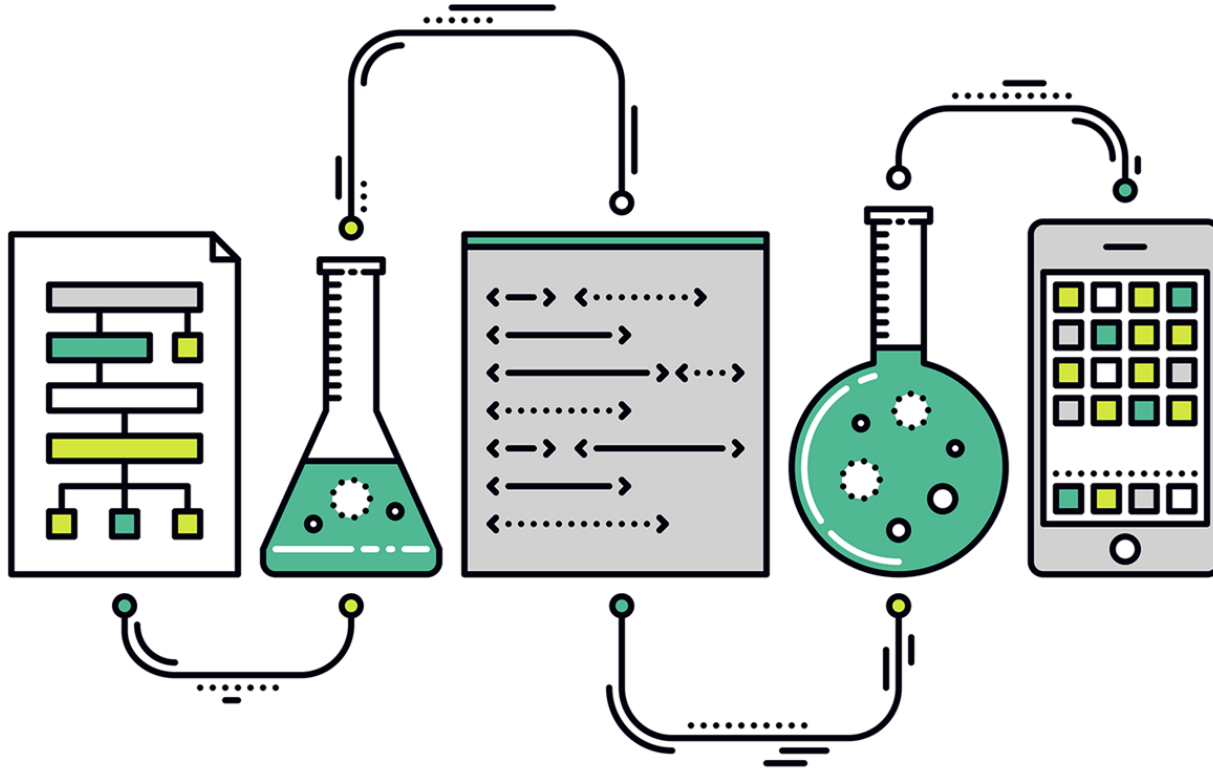
What does the term
data mean?



Perhaps you
are picturing
an Excel
spreadsheet.



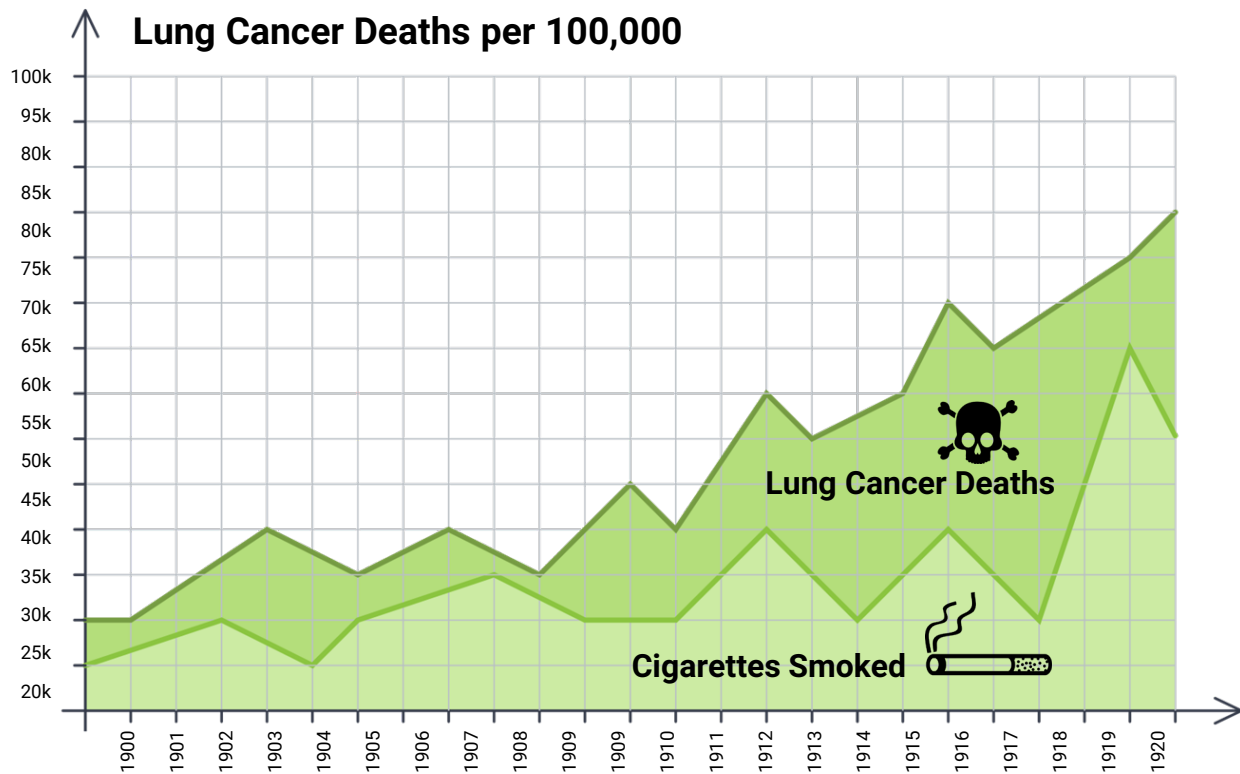
Data Science Involves Spreadsheets and Formulas





Fundamentally, data science
is about **storytelling** and
truth-telling.

Data as Truth-Telling



Data as Truth-
Telling

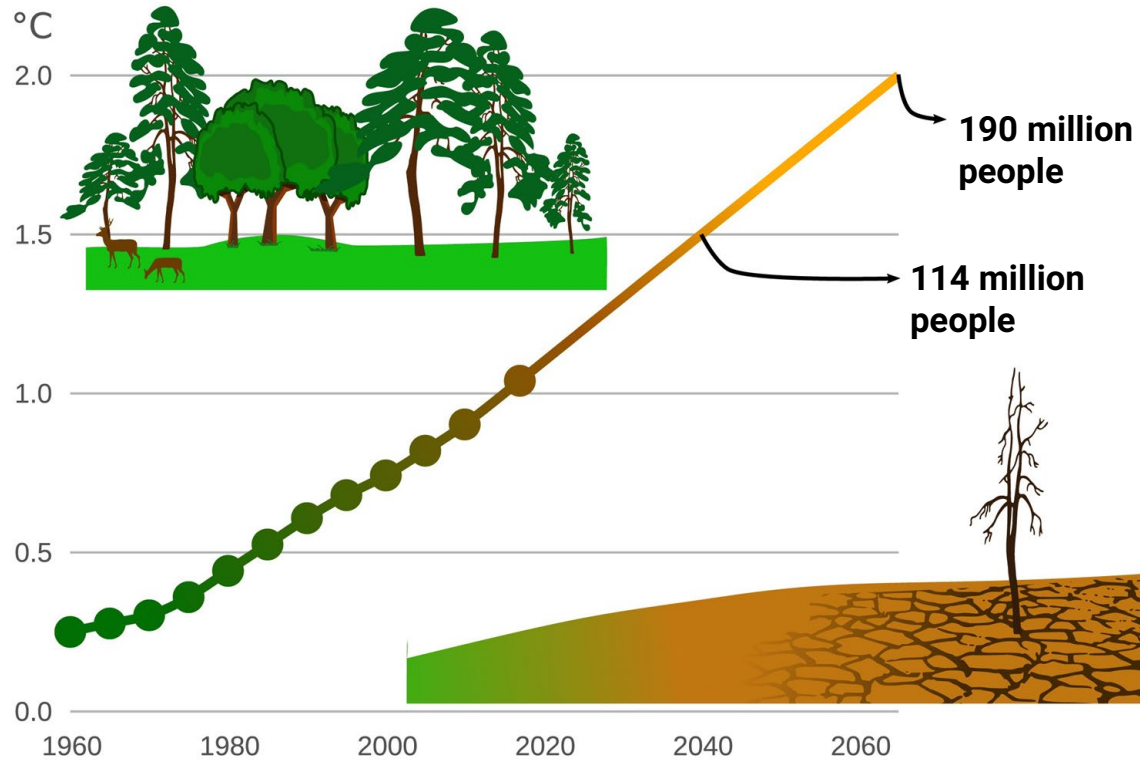
Unearthing
Relationships



Data as Truth-Telling

Making Predictions

Exposure to Extreme Drought Is Increasing



Data as Truth-
Telling

Stating
Significance

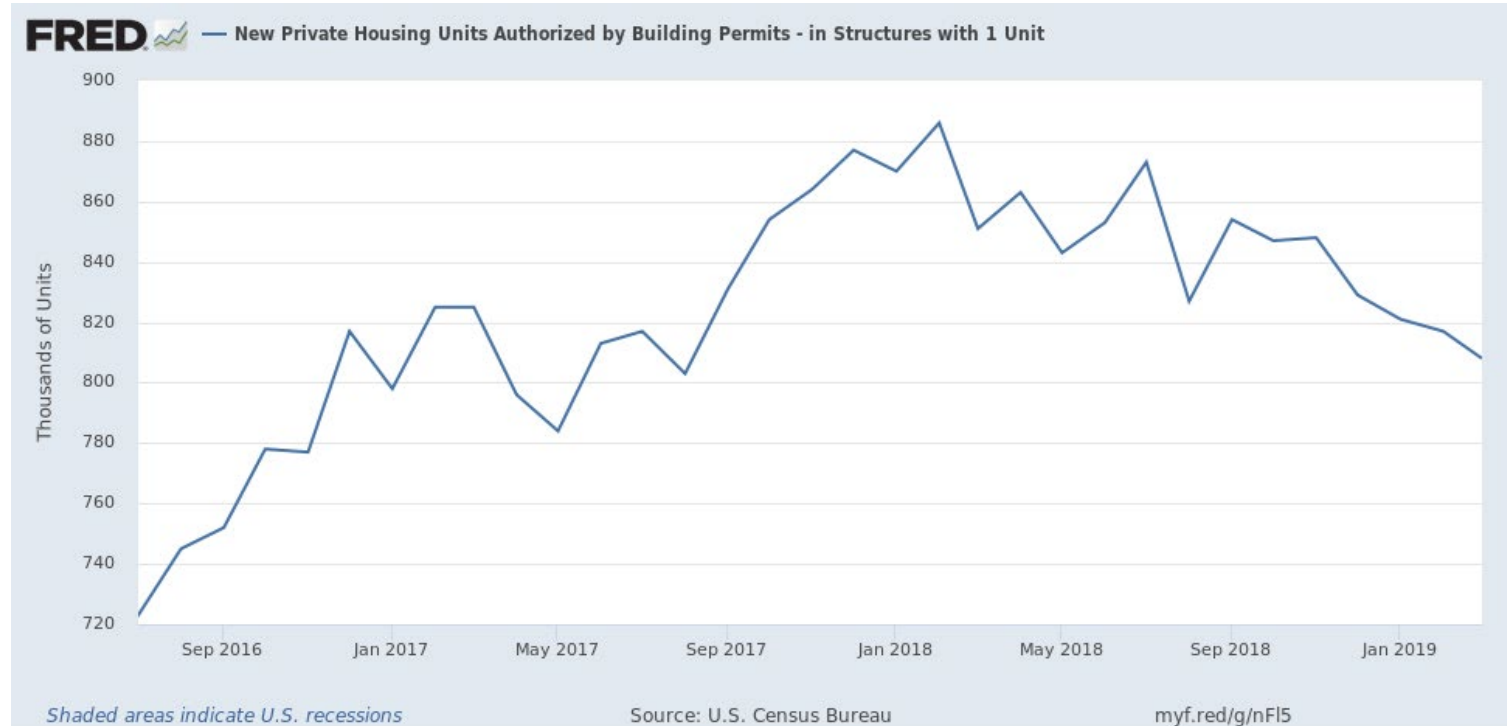
Data as Storytelling

Data as Storytelling

U.S. Debt as Percentage of Gross Domestic Product, 1790–2011											
1790	29,6%	1835	0.0	1880	18.4	1925	21.6	The Great Depression & World War II	1970	28.0	Reagan Tax Cuts
1791	29.2	1836	0,0	1881	16.8	1926	19.0		1971	28.1	
1792	28.0	1837	0.2	1882	14.3	1927	18.0		1972	27.4	
1793	24.4	1838	0.6	1883	13.5	1928	17.0		1973	26.0	
1794	21.8	1839	0.2	1884	13.3	1929	14.9		1974	23.9	
1795	18.7	1840	0.3	1885	13.2	1930	16.5		1975	25.3	
1796	16.4	1841	0.8	1886	12.4	1931	22.3		1976	27.5	
1797	16.5	1842	1.2	1887	11.2	1932	34.5		1977	27.8	
1798	16.0	1843	1.5	1888	10.2	1933	39.1		1978	27.4	
1799	15.8	1844	1.0	1889	8.6	1934	44.0		1979	25.6	
1800	15.1	1845	0.7	1890	7.8	1935	42.9		1980	26.1	
1801	13.3	1846	1.2	1891	7.0	1936	43.0		1981	25.8	
1802	13.9	1847	1.7	1892	6.6	1937	40.1		1982	28.7	
1803	14.1	1848	2.2	1893	6.8	1938	42.8		1983	33.1	
1804	13.2	1849	2.5	1894	7.9	1939	43.0		1984	34.0	
1805	10.9	1850	2.3	1895	7.9	1940	42.7		1985	26.4	
1806	10.0	1851	2.4	1896	8.5	1941	43.3		1986	38.5	

Data = Drama

New Housing Construction: Making A Bottom, At Close To Recessionary Levels



Course Overview

Tools for Truths, Skills for Stories:

Our Goals: 

Truth-telling
Storytelling

Our Means: 

Microsoft Excel

Python

pandas

Matplotlib/Seaborn

APIs

Beautiful Soup

Machine Learning

SQL

MongoDB

HTML/CSS

JavaScript

D3.js

Leaflet.js/Google

Maps

Tableau

Hadoop

Course Overview

Each class will include the following:



Overview of Lesson Topics



Instructor Lecture



Instructor Demonstration



Class Discussions



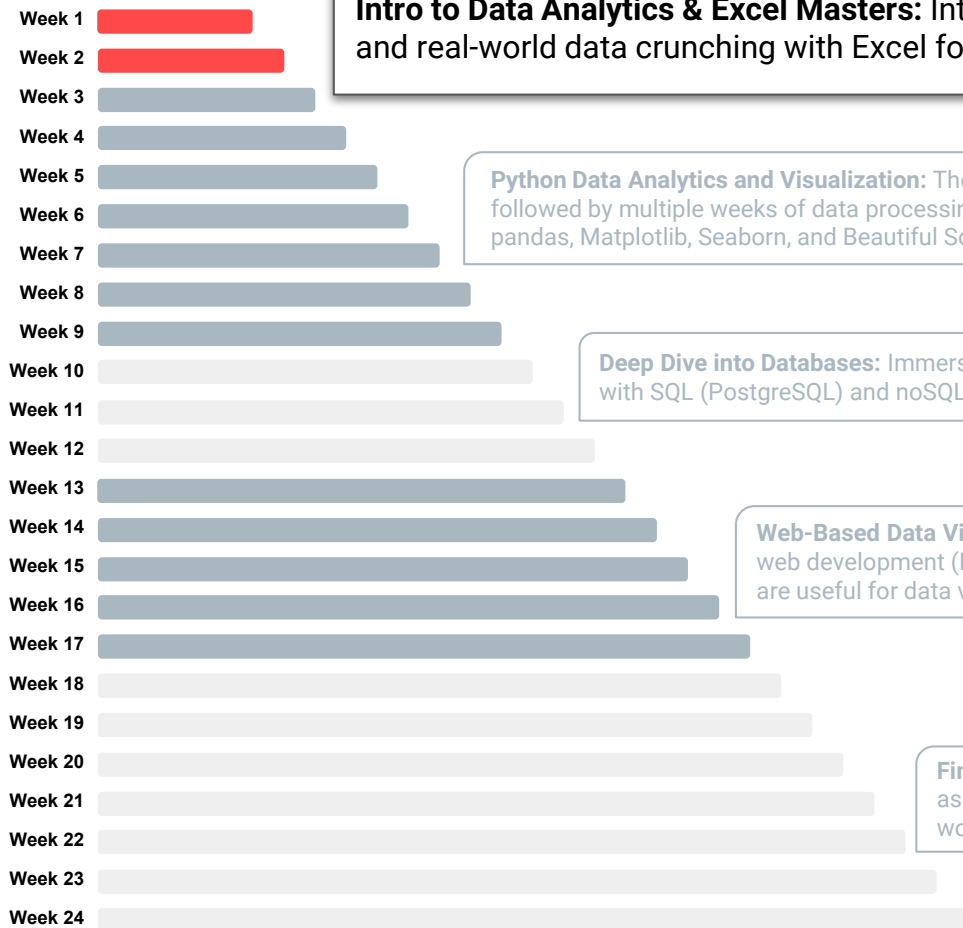
In-Class Activities



Project Work

Weekly Breakdown by Subject

Weeks 1–2



Intro to Data Analytics & Excel Masters: Introduction to the high-level concepts of data analytics and real-world data crunching with Excel formulas, pivot tables, and conditional formatting.

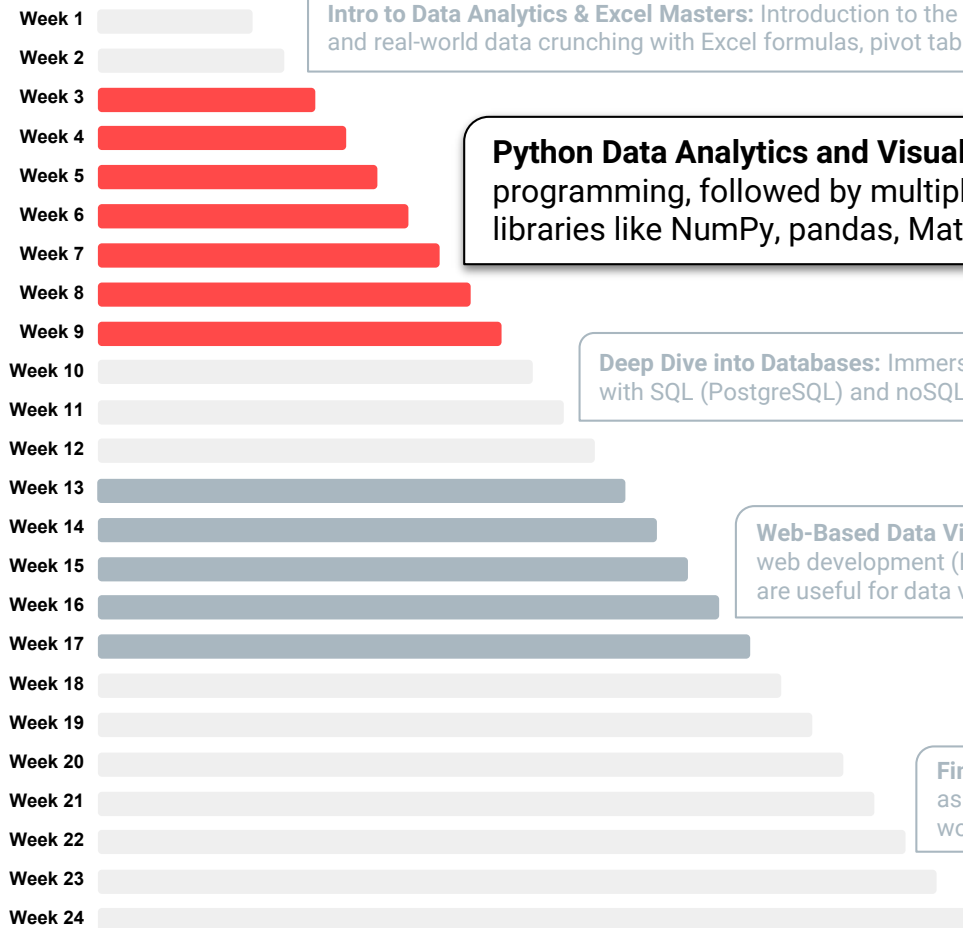
Python Data Analytics and Visualization: Thorough crash course on Python programming, followed by multiple weeks of data processing using advanced libraries like NumPy, pandas, Matplotlib, Seaborn, and Beautiful Soup.

Deep Dive into Databases: Immersion into introductory and advanced work with SQL (PostgreSQL) and noSQL databases (MongoDB).

Web-Based Data Visualization: Introduction to the fundamental tools of web development (HTML, CSS, JavaScript) and advanced libraries that are useful for data visualization (D3.js, Leaflet.js).

Final Projects & Advanced Topics: Introduction to Tableau and R as well as advanced topics like Hadoop and Machine Learning. Develop a real-world data visualization project.

Weeks 3–9



Intro to Data Analytics & Excel Masters: Introduction to the high-level concepts of data analytics and real-world data crunching with Excel formulas, pivot tables, and conditional formatting.

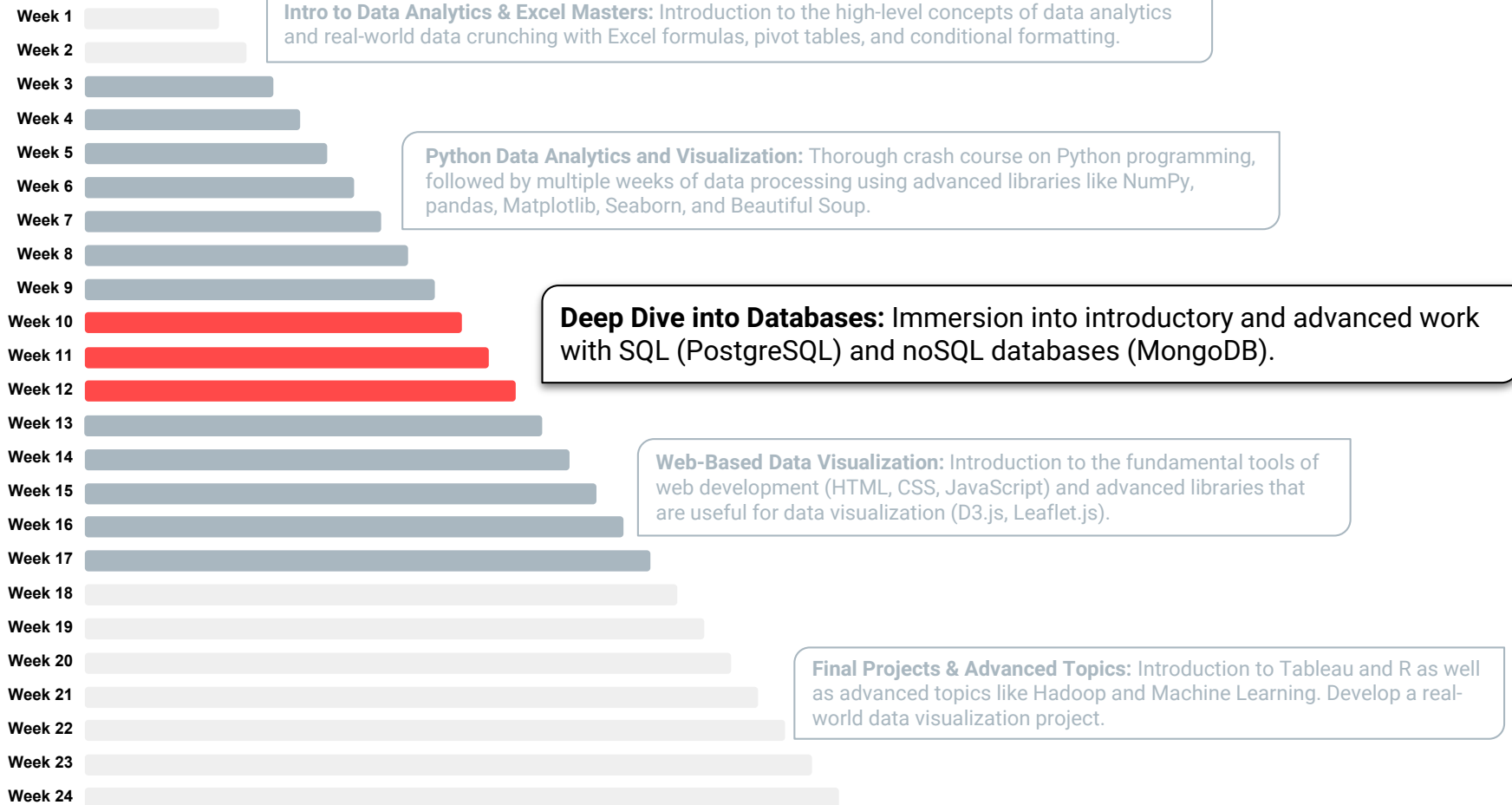
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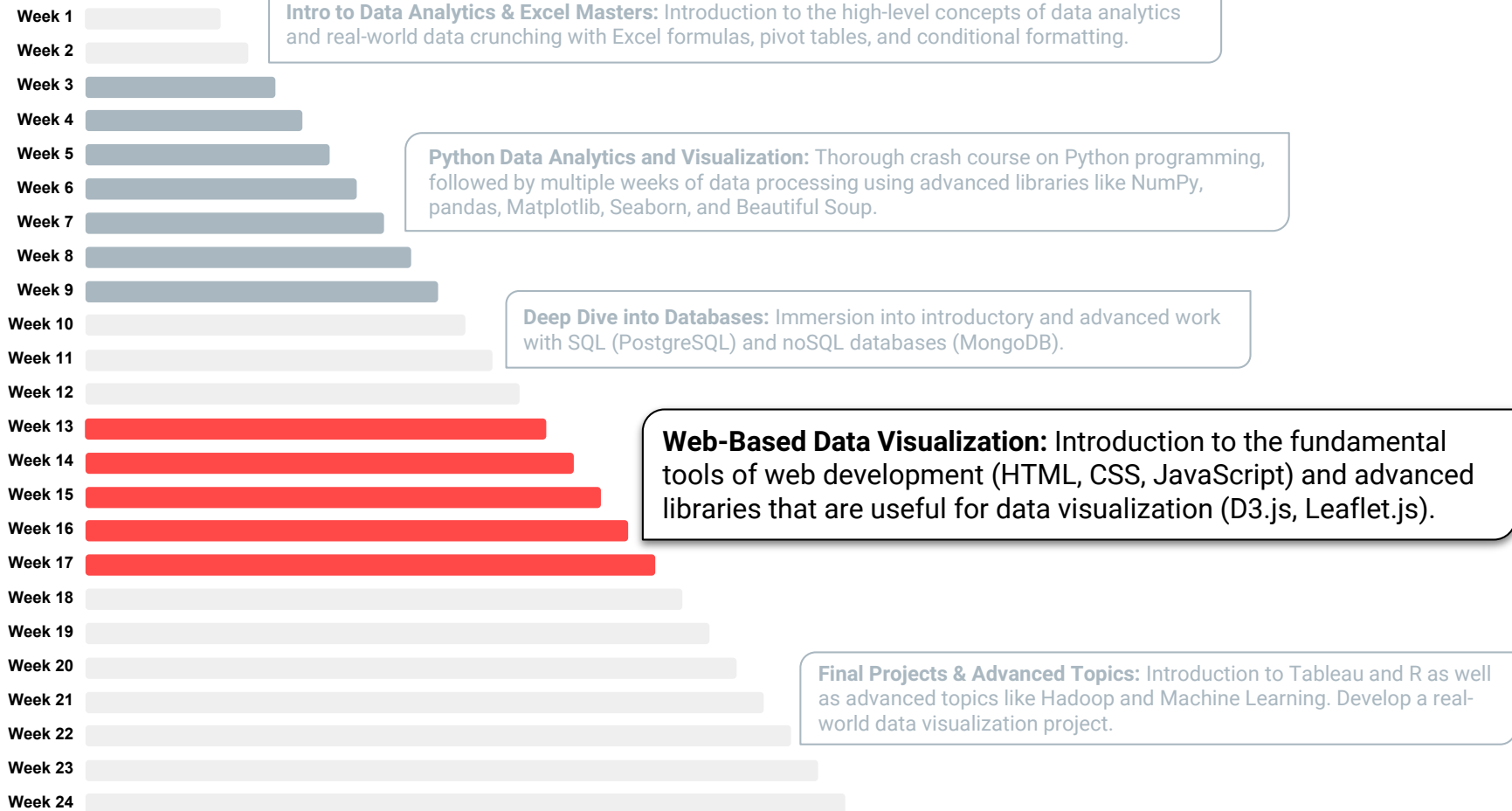
Web-Based Data Visualization: Introduction to the fundamental tools of web development (HTML, CSS, JavaScript) and advanced libraries that are useful for data visualization (D3.js, Leaflet.js).

Final Projects & Advanced Topics: Introduction to Tableau and R as well as advanced topics like Hadoop and Machine Learning. Develop a real-world data visualization project.

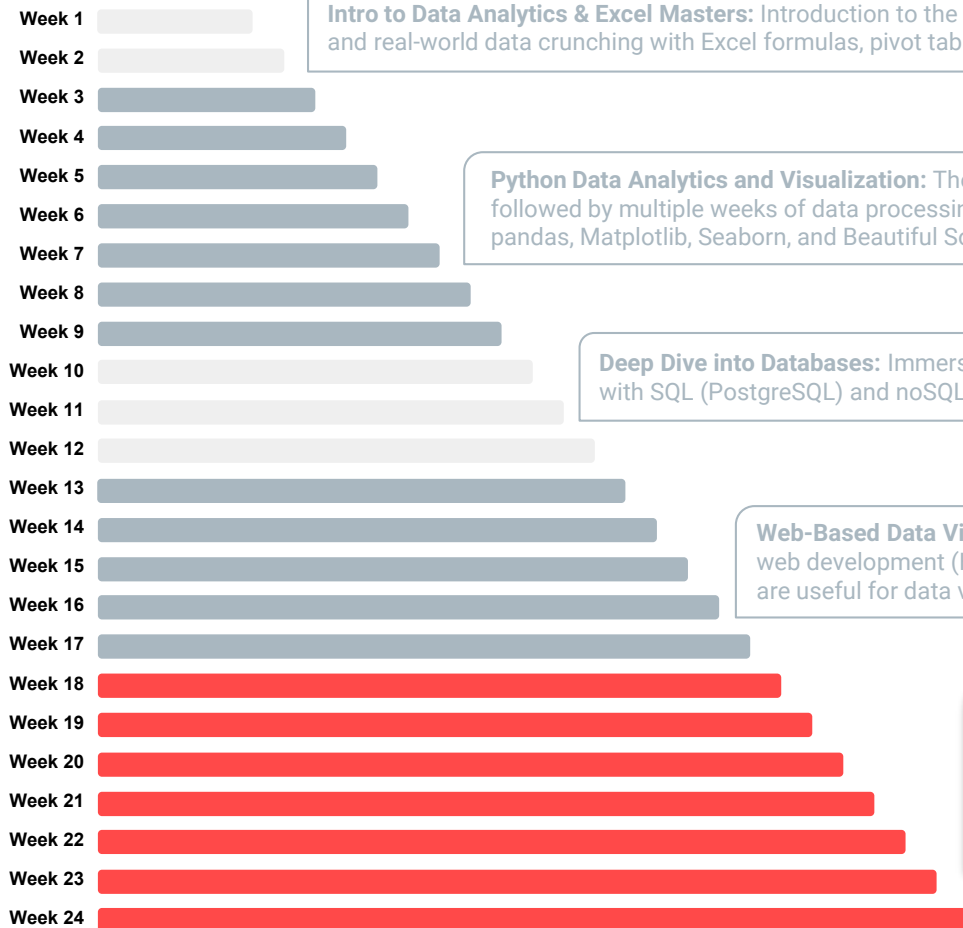
Weeks 10–12



Weeks 13–17



Weeks 18–24



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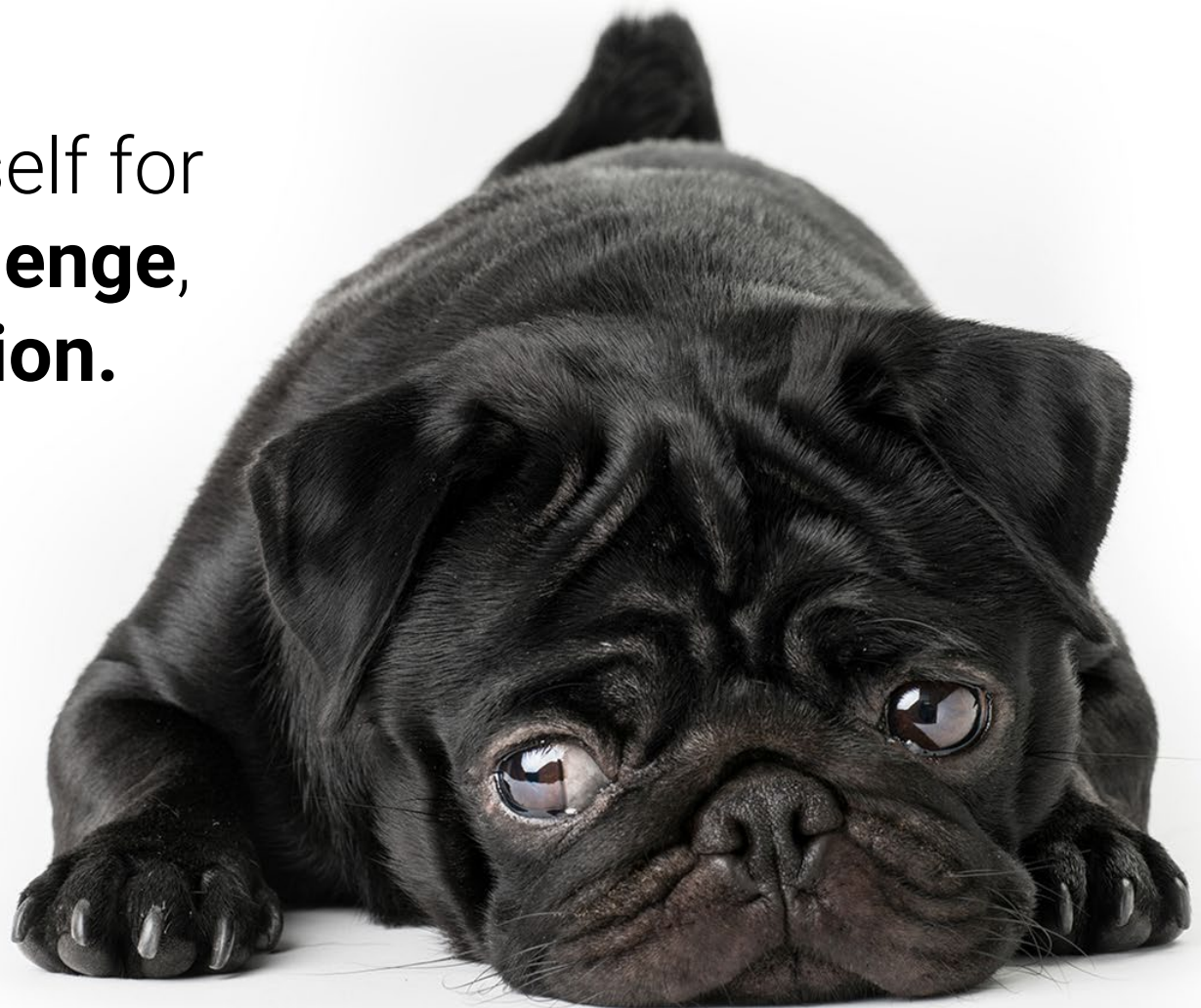
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Helpful Tips

Embrace your
inner toddler.



Brace yourself for
doubt, challenge,
and **confusion.**



Relish the **novice experience**
and expect a lot of
lightbulb moments.



Form a community
with your classmates.



There is no shortcut.
You've got to **put in the hours!**



Celebrate your successes!





Questions?