

Principles of data visualization

What is Data Visualization?



→ insights → decisions

Get Data

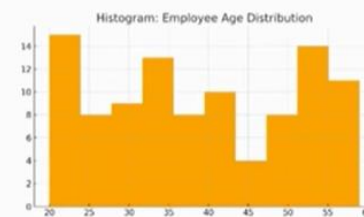
	A	B	C	D	E
1	id	name	class	mark	gender
2	1	John Deo	Four	75	female
3	2	Max Ruin	Three	85	male
4	3	Arnold	3	55	
5	4	Krish Star	Four	60	female
6	5	John Mike	Four	60	female
7	6	Alex John	Four	55	male
8	7		Fifth	78	
9	8	Asruid	Five	85	male
10	9	Tes Qry	Six	78	male
11	10	Big John	Four	55	female
12	11	Ronald	Six	89	female
13	12	Recky		94	female
14	13	Kty	Seven	88	female
15	14	Bigy	Seven	88	female



graph



Different Plots





Power BI → MS

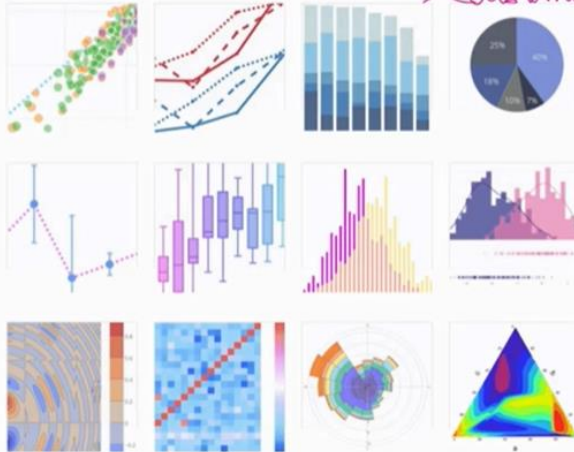


Plotly

→ Cross Platform Support
 → Interactive Graphs
 → Range charts
 → Customization



→ Py → R → Matlab

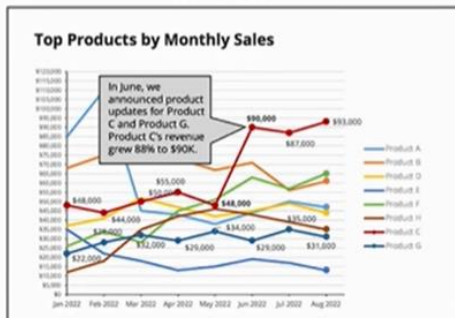


Principle 1 - Clarity



- Avoid clutter.
- Use clear visual hierarchies.

With Clutter



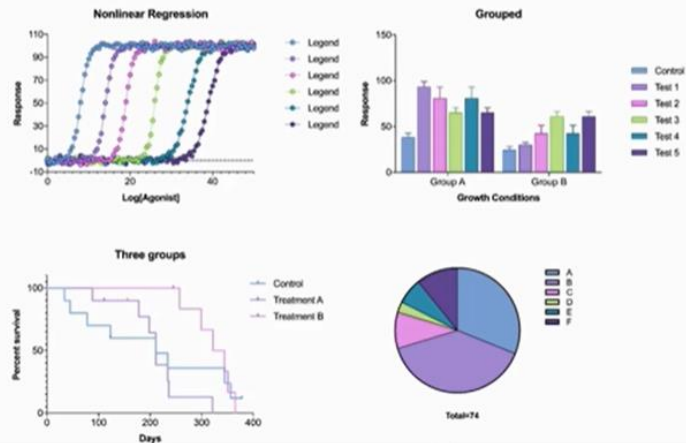
Without Clutter



Effectivedatastorytelling.com

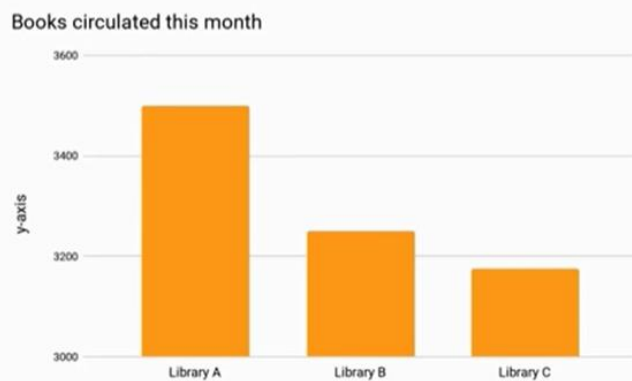
Principle 2 - Accessibility

- Use color schemes that are colorblind friendly.
- Ensure text is readable.



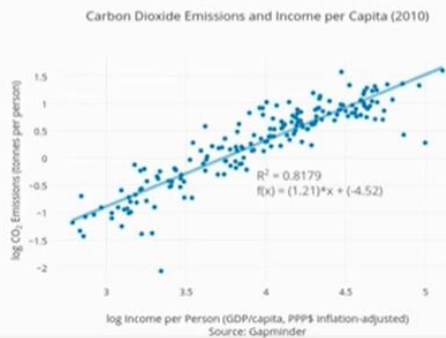
Principle 3 - Accuracy

- Use appropriate scales and axes.
- Avoid misleading representations.

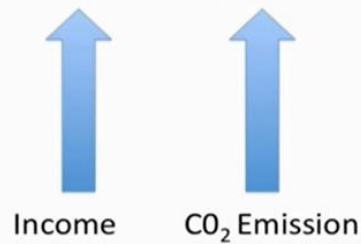


Principle 4 - Relevance

- Tailor visualizations to the audience.
- Highlight what's most important.



There is a strong statistical correlation between income and carbon emission per capita



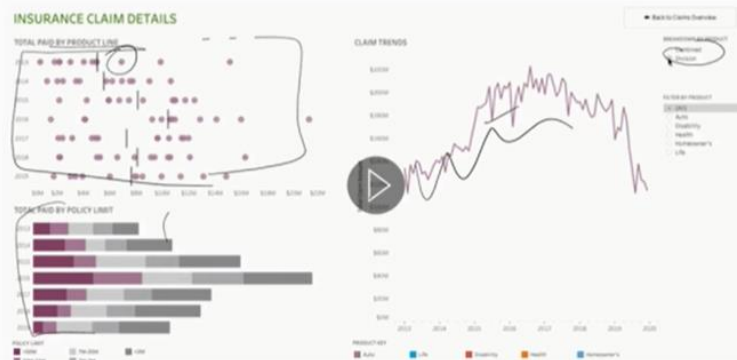
Principle 5 - Aesthetics

- Balance color and design elements.
- Use whitespace effectively.



Principle 6 - Interaction

- Examples of interactive tools (e.g., hover, drill-down).
- Benefits of interaction in exploring data.



Principle 7 - Context

- Keep the "big picture" in mind.
- Compare and contrast data points.

