# Visual storytelling on the web
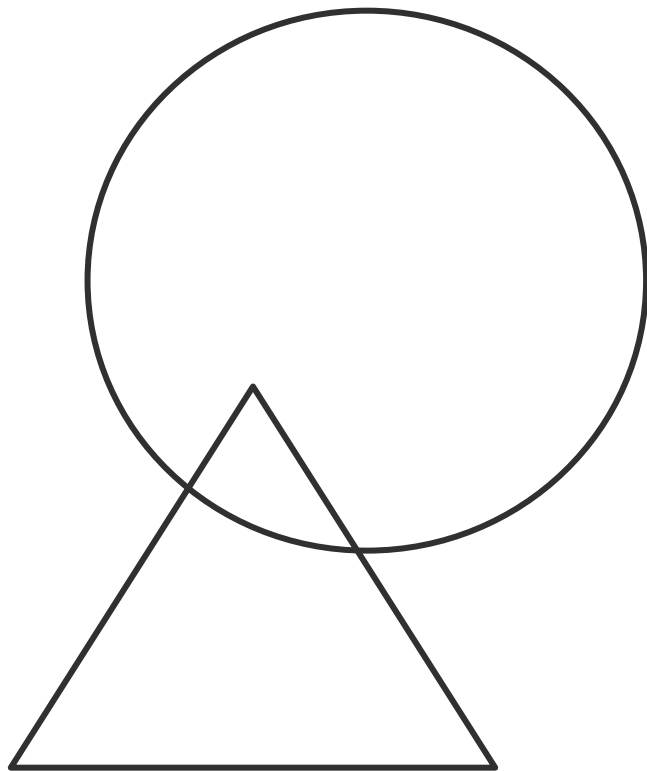
Data Studio – Lede Program

Ashlyn Still
@ashlynstill
as5962@columbia.edu

# Before we get started.... grab a partner!

# How did it go?

What types of instructions were the most helpful? What about the least helpful?

# Why does web design matter in data reporting and visualization?

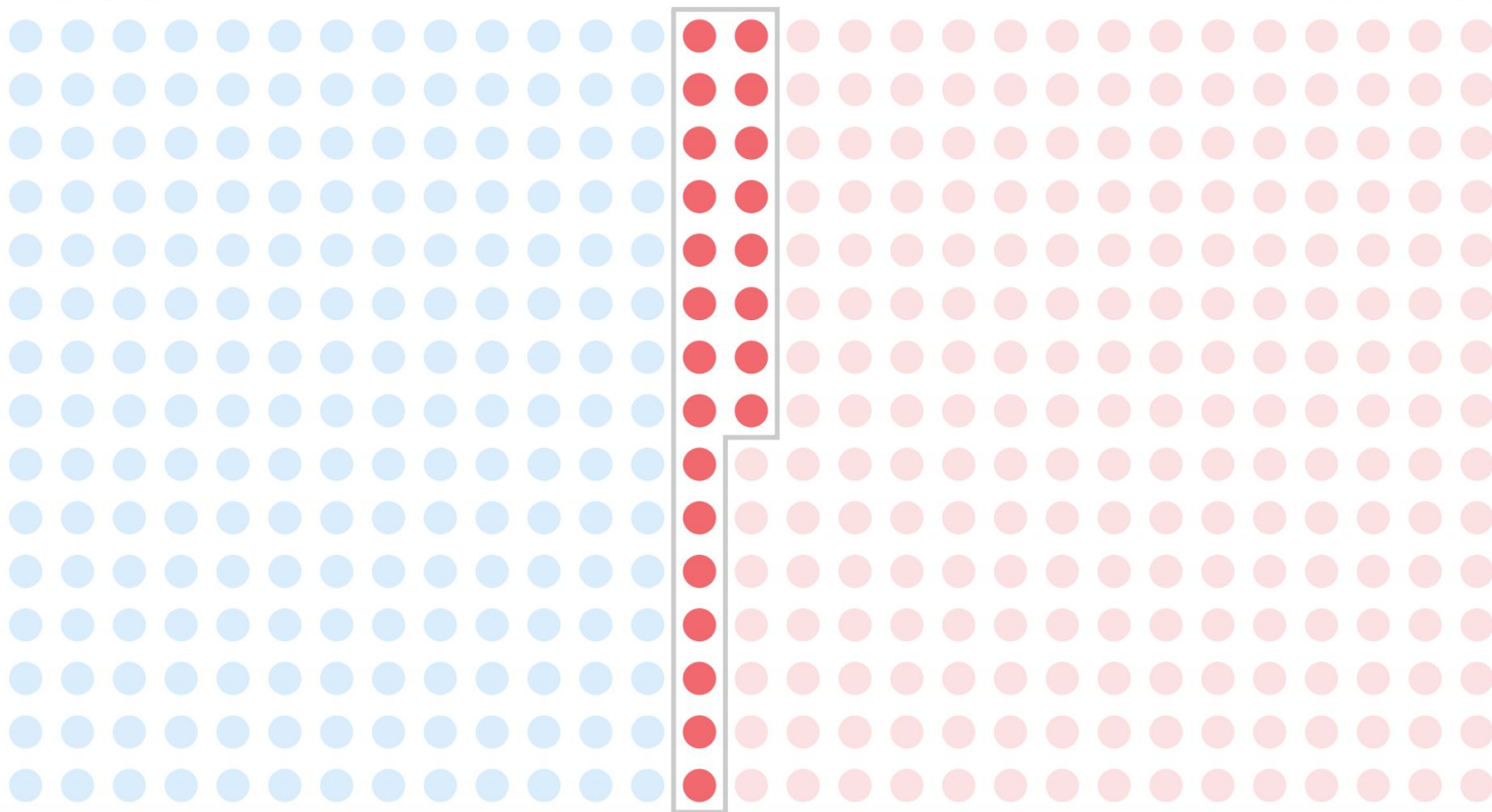# Why does web design matter in data visualization?

- The best data-driven stories are more than just text alone, analysis alone, visualization alone. **It's about the whole package.**
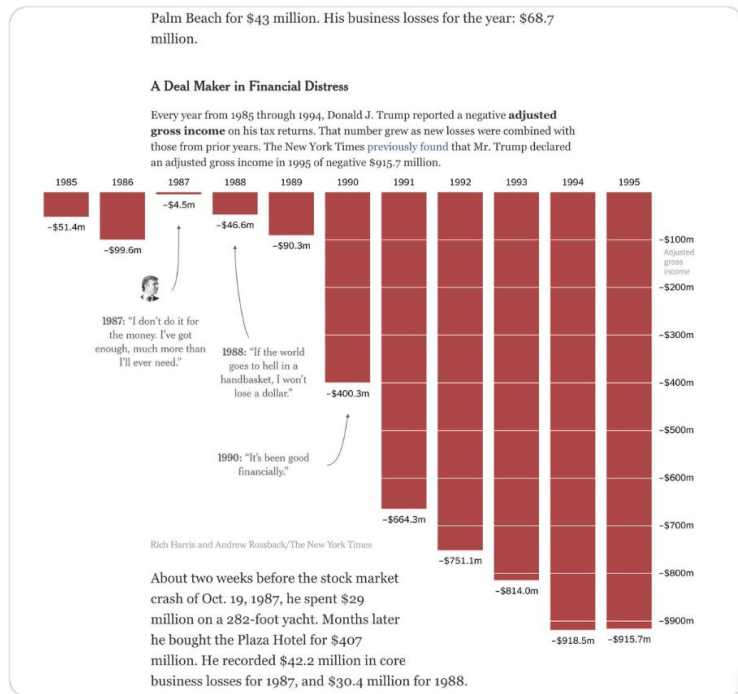
**195**
DEMOCRATS

**240**
REPUBLICANS

# Why does web design matter in data visualization?

- The best data-driven stories are more than just text alone, analysis alone, visualization alone. **It's about the whole package.**
- **Digital design literacy** isn't a "nice to have" skill in newsrooms anymore. It's a necessary skill.

Rich Harris ✓ @Rich_Harris · May 7

By the mid-90s, the losses are large enough that to do them justice would take more vertical space than we can allow for the chart. So we decide to let the bars break out of the chart boundary and into the text.



Palm Beach for $43 million. His business losses for the year: $68.7 million.

**A Deal Maker in Financial Distress**

Every year from 1985 through 1994, Donald J. Trump reported a negative **adjusted gross income** on his tax returns. That number grew as new losses were combined with those from prior years. The New York Times previously found that Mr. Trump declared an adjusted gross income in 1995 of negative $915.7 million.

1985 −$51.4m
1986 −$99.6m
1987 −$4.5m
1988 −$46.6m
1989 −$90.3m
1990 −$400.3m
1991 −$664.3m
1992 −$751.1m
1993 −$814.0m
1994 −$918.5m
1995 −$915.7m

−$100m Adjusted gross income
−$200m
−$300m
−$400m
−$500m
−$600m
−$700m
−$800m
−$900m

1987: "I don't do it for the money. I've got enough, much more than I'll ever need."

1988: "If the world goes to hell in a handbasket, I won't lose a dollar."

1990: "It's been good financially."

Rich Harris and Andrew Rossback/The New York Times

About two weeks before the stock market crash of Oct. 19, 1987, he spent $29 million on a 282-foot yacht. Months later he bought the Plaza Hotel for $407 million. He recorded $42.2 million in core business losses for 1987, and $30.4 million for 1988.
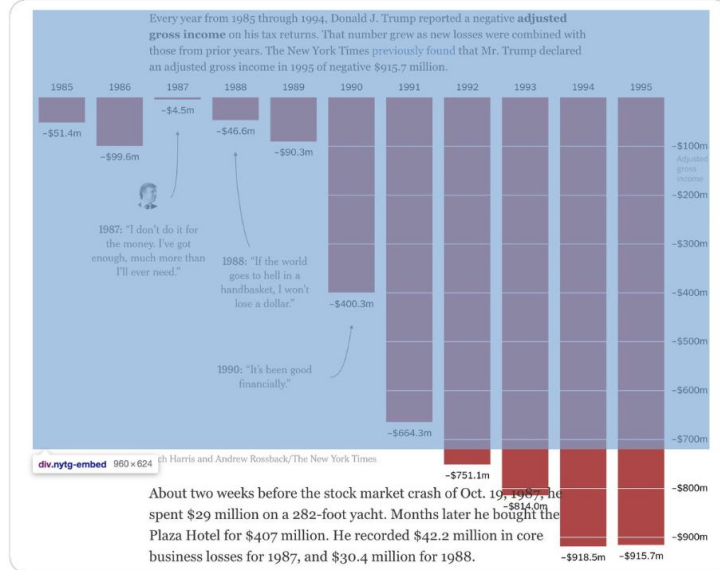
💬 22    🔁 330    ♡ 817    ✉

---

Rich Harris ✓
@Rich_Harris

Follow

That part's easy enough, but now we need to displace the text somehow. The text is coming from the CMS; I have no control over it. By default, it will run across the bars, which is obviously no good. But we *can* add CSS to the page.

**Rich Harris** ✔ @Rich_Harris · May 7 ⌄

Using the + selector combinator, we can target the paragraph immediately after the embed. And using a ::before pseudo-element, we can insert a box that forces the text to flow around it. Throw in a media query for responsiveness, and voila! The text flows around the chart.



💬 40   🔁 56   ♡ 772   ✉

# Why does web design matter in data visualization?

- The best data-driven stories are more than just text alone, analysis alone, visualization alone. **It's about the whole package.**
- **Digital design literacy** isn't a "nice to have" skill in newsrooms anymore. It's a necessary skill.
- **When a chart shouldn't be a chart**: Some data stories are best told with layout + design

# Leaders of the Largest American Companies

After some years of progress, the diversity of the corporate elite has stalled in recent years, said Richard Zweigenhaft, a professor at Guilford College who studies executive diversity. "Once that barrier is broken, there may be a little less pressure to keep appointing people from that previous excluded category," he said.

# Why does web design matter in data visualization?

- The best data-driven stories are more than just text alone, analysis alone, visualization alone. **It's about the whole package.**
- **Digital design literacy** isn't a "nice to have" skill in newsrooms anymore. It's a necessary skill.
- **When a chart shouldn't be a chart**: Some data stories are best told with layout + design
- **News design isn't about making stories look "nice" or "pretty".** It's about using visual cues and design elements to tell stories and explain complex ideas.
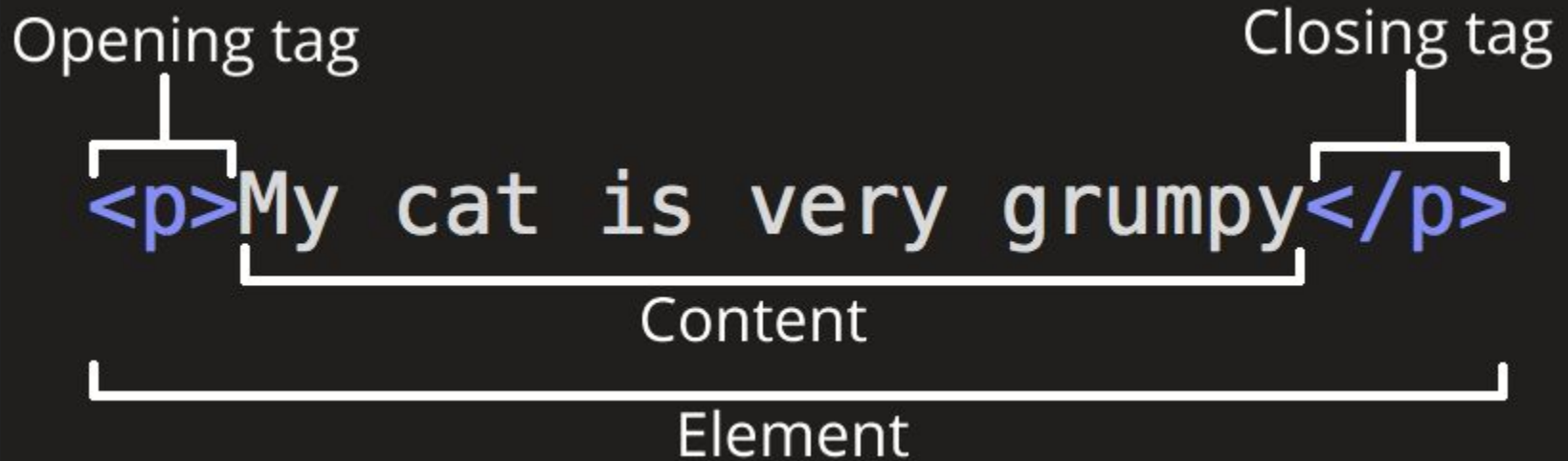
Hurricane Maria slammed into Puerto Rico in the early hours of Sept. 20, bringing 155 mph winds that knocked the majority of the 3,500-square-mile island into one of its longest widespread power outages since Hurricane Jeanne made landfall in 2004.

More than 60 people have died since the storm hit. However, reports suggest the actual death toll might be more than 1,000.

Officials warned the storm's destructive blow to Puerto Rico's aging electrical infrastructure could take months to repair.

Two months after Maria made landfall on Sept. 20, the majority of the island's 3.4 million people were still without power. On Nov. 28,

**PUERTO RICO'S LONGEST POWER OUTAGES SINCE 2000**

Hover for more detail

0 days
2
4
6
8

**HURRICANE MARIA**

0 days
2
4
6
8
10
12
14
16

# HTML + CSS =
# Building blocks of the web

# What is HTML?

- HTML isn't a programming language – it's a markup language that tells the browser how to structure web pages
- It's made up of **elements**, which you use to enclose, wrap, or mark up different parts of the content to make it appear or act a certain way

# The anatomy of an HTML element

```
 1  <!doctype html>
 2  <html lang="en">
 3      <head>
 4          <!-- Meta tags go in here-->
 5          <!-- Link to your CSS files in here -->
 6      </head>
 7
 8      <body>
 9
10      <!-- All of your HTML content that you want displayed goes inside
        the <body> element -->
11
12      </body>
13  </html>
```

# Types of elements: Block elements

- Block elements give the page structure
- They appear on the screen as if they have a line break before and after them
- Some examples of **block elements**: <p>, <h1>, <h2>, <h3>, <h4>, <h5>, <h6>, <ul>, <ol>, <dl>, <pre>, <hr />, <blockquote>, and the most important: <div>

# BLOCK-LEVEL ELEMENTS:

# Heading and paragraph elements

- Heading tags are important because search engines use them to index the content of your pages
- Heading tags include: <h1>, <h2>, <h3>, <h4>, <h5> and <h6> with h1 being read as the <u>most</u> important and h6 being read as the <u>least</u> important
- All other body text goes inside **paragraph** elements <p>
- HTML provides default styles for these but you can change them with CSS as well

# Breaking things up

- **Horizontal rules** and **line breaks** are often used in HTML to add spacing and break things up.
- They are self contained and don't need to be closed because they include a closing slash within the element itself
- <hr/> creates a horizontal rule and defines a thematic break in an HTML page
- <br/> adds a line break

# <div> aka your HTML organization BFF

- **<div>** elements are arguably the most used HTML element
- <div> = "division"
- DIV elements can be used to structure HTML documents as a hierarchy of divisions
- When combined with CSS, <div> elements are what control the layout and structure of an HTML page

# An example from our project template

```
<div class="header">
  <p class="kicker">Optional kicker</p>
  <h1 class="headline">The graphic headline</h1>
  <h2 class="subhead">If you need a subhead, it can go here.</h2>
  <p class="byline">By Firstname Lastname</p>
  <p class="date">Published Month XX, 2019</p>
</div>
```

This div wraps around a series of block elements to create a section of a page

# Types of elements: Inline elements

- **Inline elements** almost always live nested within **block elements**
- They do not have to appear on a new line of their own
- The <a>, <b>, <i>, <u>, <em>, <strong>, <sup>, <sub>, <big>, <small>, <li>, <ins>, <del>, <code>, <cite>, <dfn>, <kbd>, and <var> elements are all inline elements.
- They are often used to style sections of text within paragraphs
- <span> tags are like the inline version of <div> – they help group inline items, or add specific CSS styles to inline content.

# INLINE ELEMENTS:

# Inline elements in action

```
<p>The name of my dog, <strong>Sophie</strong>, is bold in this
sentence.</p>

<p><span>Selecting parts of text with a span:</span> We can apply
specific CSS styles to that chunk of text when it is wrapped in a
span</p>
```

# What about CSS?

- CSS stands for Cascading Style Sheets because the computer reads it top to bottom and inherits the most recent reference OR the most specific reference to a selector.
- HTML was never intended to describe how a web page *looks*, its only intention is to describe the content of a web page.
- CSS describes how the HTML content should function on the page
- You attach CSS to your HTML elements via CSS selectors referencing **tags**, **classes**, and **ids** on your HTML elements.

class attributes can be applied to
multiple elements for style reptition
and consistency

↓

`<div class="class-name" id="unique-id">Your content</div>`

↑

id attributes are unique to
that specific element and
should only be used once

```
.class-name {
  font-size:28px;
  color:blue;
}


#id-name {
  color:green;
}
```

Class selectors in CSS are referenced with a period

ID selectors in CSS are referenced with a hash (#)

# Putting it all together on a page

- The number one rule is to **ALWAYS CLOSE YOUR HTML ELEMENTS**
  - I.E. If you have a <div>, there has to be a corresponding </div>
- Don't be afraid to nest your elements
  - Often, the best way to organize your content is to put divs inside of other divs (inside of other divs!)
  - But make sure that your inline elements are always inside a block element – block elements *rarely* should be inside inline elements
- Google is your pal
  - When in doubt, take a look at W3Schools and the Mozilla HTML + CSS guides

# Let's practice in small groups

# Instructions:

Using **pseudo code**, draft out on paper how you might structure an HTML page for a digital version of one of the following:

- A restaurant menu
- A resume
- A letter

Don't be afraid to get creative with text styles (like using different heading elements) and inline style elements (italics, bold, underline, etc). You can also use things like horizontal rules <hr/> to break things up

# Data studio HTML project template

[https://github.com/hilaryfung/data-studio-2019](https://github.com/hilaryfung/data-studio-2019)

# Homework

- If you haven't filled out the google form Hilary assigned on Monday, please fill it out before the next class!
- Start outlining your first project in the project template. Next week we'll start project critiques.
- Be ready to share where you're at with your projects before each class – we will call on students randomly for critique so come to class prepared!