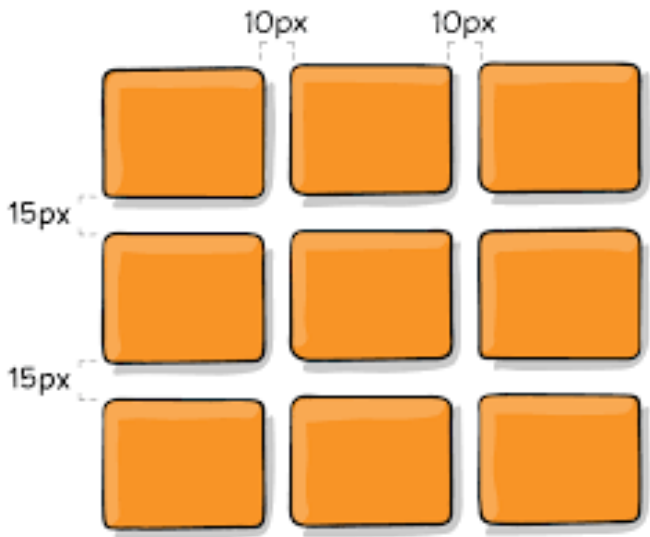
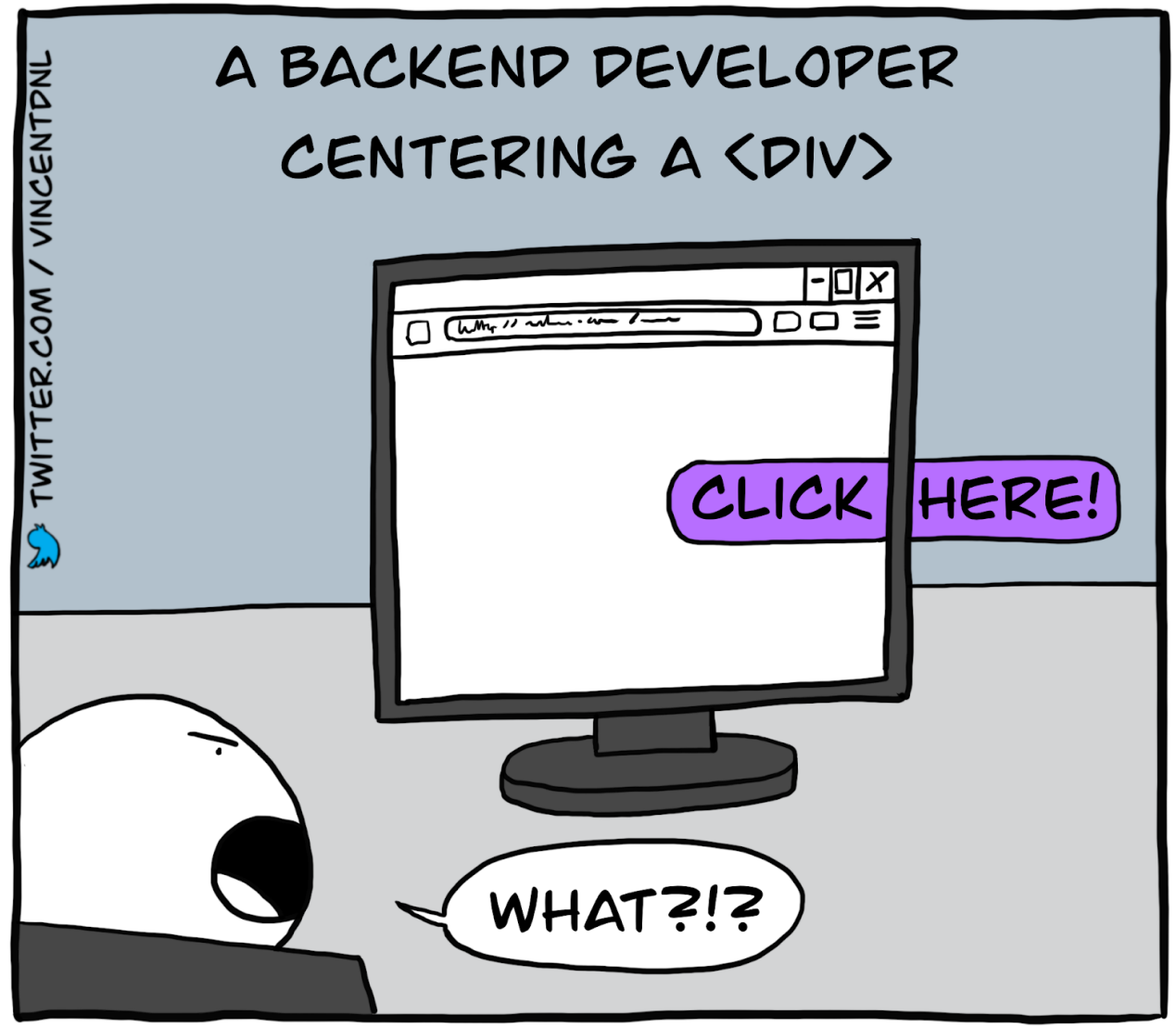

10px
10px
15px
15px

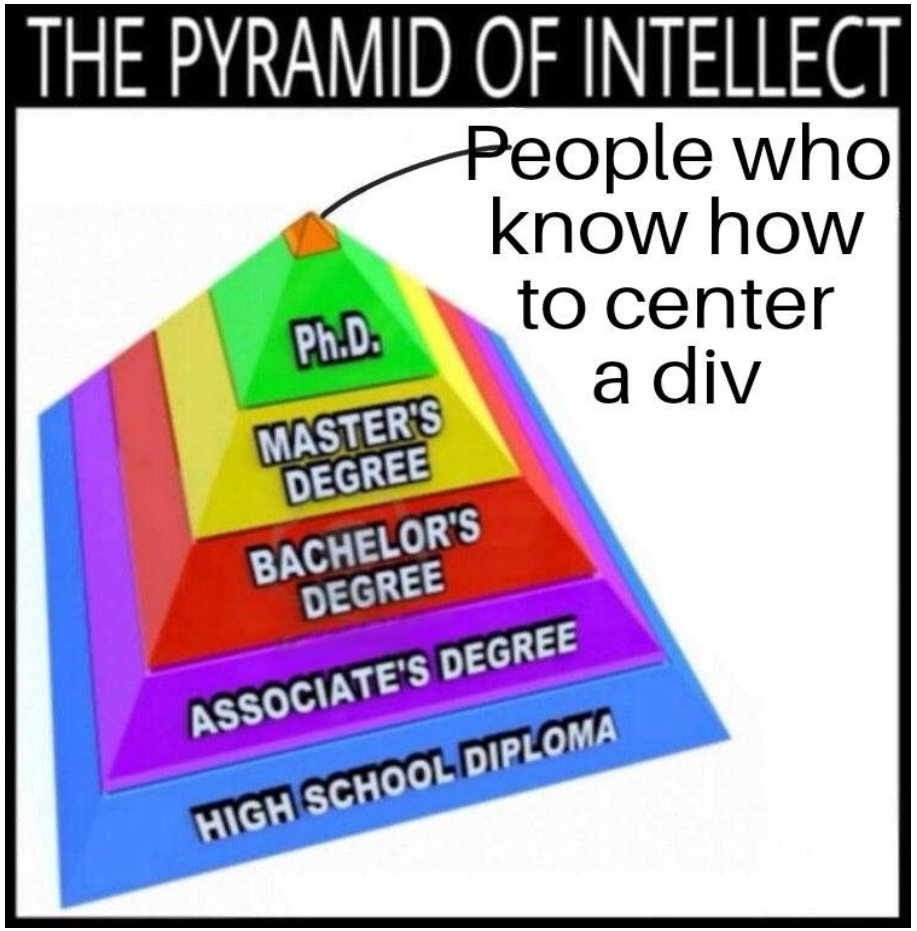

A BACKEND DEVELOPER CENTERING A <DIV>
CLICK HERE!
WHAT?!?
TWITTER.COM / VINCENTDNL

Module 3-3

CSS Grid and Responsive Design

Objectives

- Learn about Grid container
- Define named grid template areas
- Assign page elements to grid template areas for page layout
- Describe what responsive design is and what mobile first is



CSS Variables

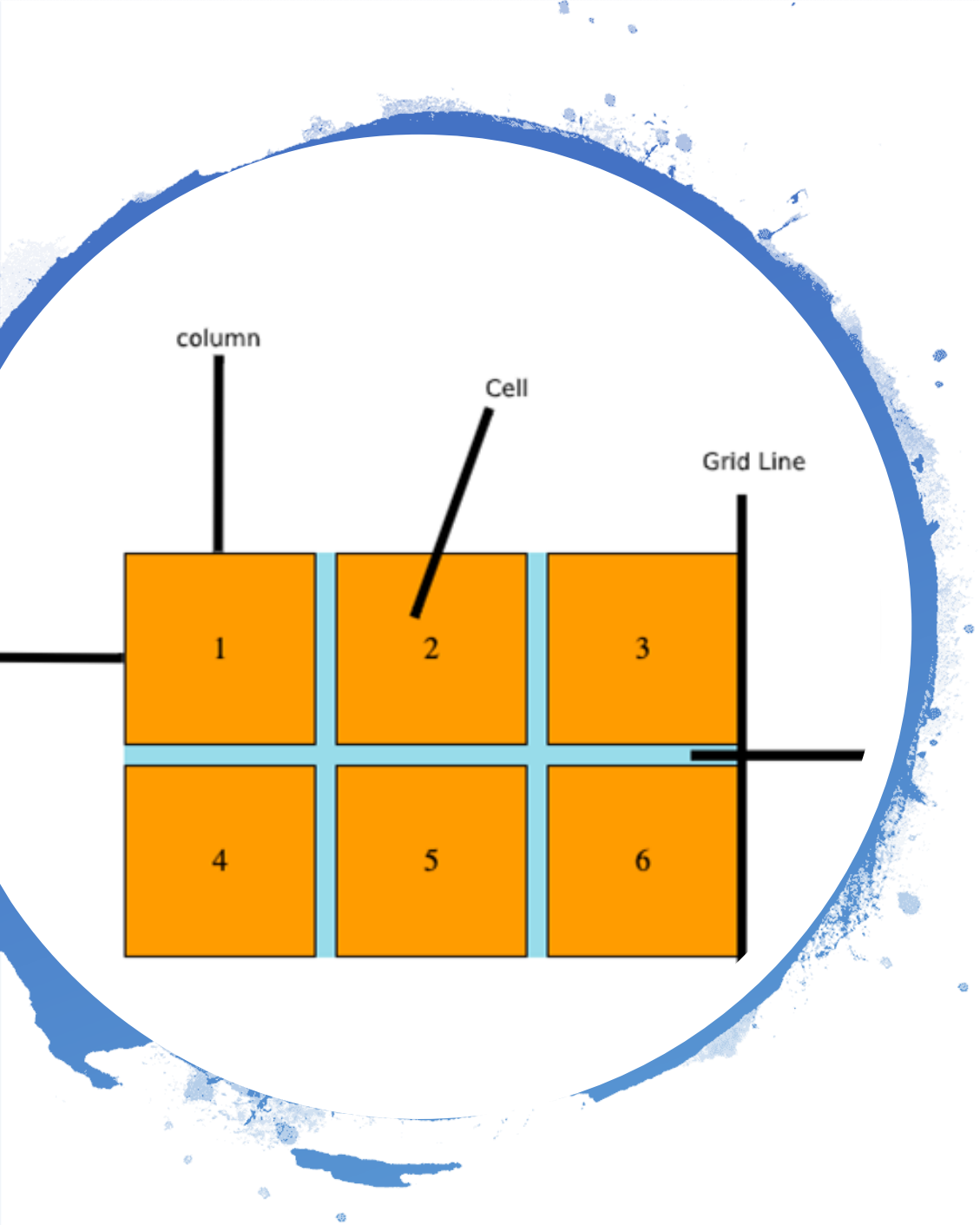
```
:root {
   --main-bg-color: blue;
 }

div  p {
   color: var(--main-bg-color);
}
```

1

1.1

2

3



CSS Grids: Introduction

- Grid allows us to write better layouts using in-browser capability of grids.
- Before grid, we had to either use something like Bootstrap or create a custom grid system.
- By defining a grid, we create a two-dimensional layout composed of columns and rows allowing us to better organize our web page's contents.

CSS Grids: Defining

To define a grid we must specify a display attribute with a value of grid:

```
.myGrid {

        display: grid;

}
```

In this example, the CSS code will specify using a selector by class, that an html element with a class name of myGrid be defined as a grid. All of the direct children of the container will become grid items.

CSS Grids: Columns and grid-gap

grid-template-columns: This property defines the number of columns (and their respective width).

grid-gap: Creates a gutter, setting a width of space between the columns and rows. (note – not around outside of container)

```
body {
 display: grid;
 grid-template-columns: 1fr 2fr 2fr 2fr 2fr 1fr;
 gap: 40px;
}
```

fr stands for fractional unit. The 1st column will occupy 10% of the width, the second 20%, etc.

Adds a buffer between the cells of the grid.

CSS Grids: Template Areas

grid-template-areas: Matches each area of the grid to a specific HTML element. By virtue of how this works, it also defines the number of rows.

```
body {
 display: grid;
 grid-template-columns: 1fr 2fr 2fr 2fr 2fr 1fr;
 gap: 20px;
 grid-template-areas:
   ". header header  nav   nav   ."
   ". main   main    main  main  ."
   ". fall-festival fall-festival store store .";
}
```

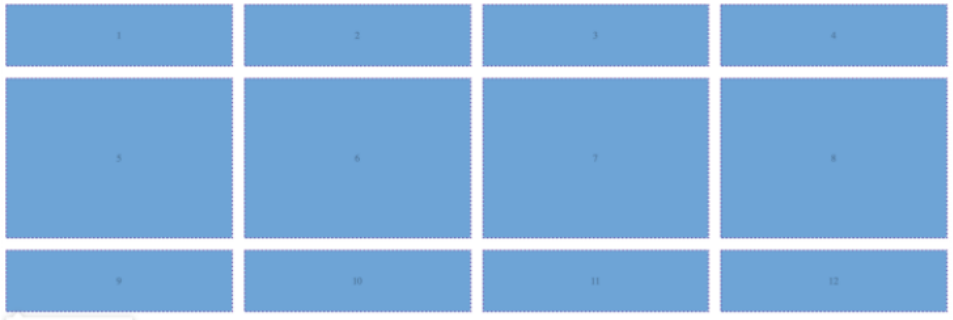
The period represents an empty space in the final grid layout.

CSS Grids: Template Rows

grid-template-rows: Specifically allow you to specify how many rows.

```
body {
 display: grid;
 grid-template-columns: 1fr 1fr 1fr 1fr;
 grid-template-rows: 100px 1fr 100px;
 grid-template-areas:
   ". header header  nav   nav   ."
   ". main   main    main  main  ."
   ". fall-festival fall-festival store store .";
}
```

First and third row have a set height of 100px. Second row will take up the rest of the available space.



CSS Units: viewport vs. pixels vs. fractional units

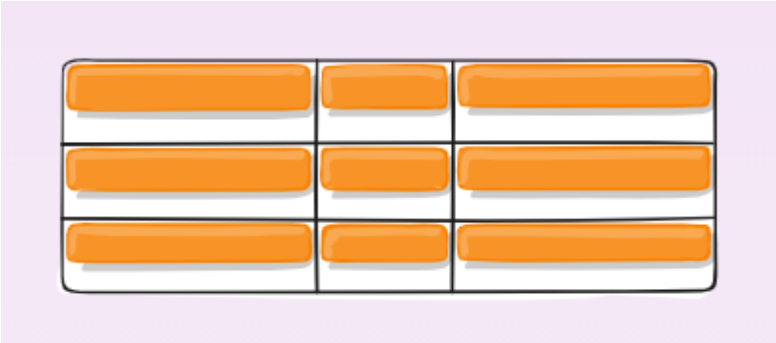
- Pixels are fixed length units. 100px is the same size no matter how big the display (viewport)
- vh (viewport height) and vw (viewport width) can be used to set the height and/or width the container (1vh is 1% of viewport height)
- fr (fractional units) typically used to specify how much of the container each grid item is allotted

```
body {
  margin: 0;
  padding: 0;
}

.container {
  height: 100vh;
  display: grid;
  grid-template-columns: 1fr 1fr 1fr 1fr;
  grid-template-rows: 1fr 1fr 1fr;
  grid-gap: 20px;
}
```

CSS Grids: Align-items

Aligns grid items along the block (column) axis. Used at the container level.

```
body {
 display: grid;
 grid-template-columns: 1fr 2fr 2fr 2fr 2fr 1fr;
 grid-template-rows: 100px 1fr 100px;
 align-items: start;
}
```

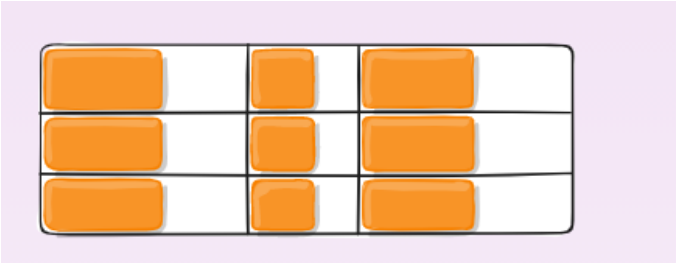


Start – flush with start edge of cell
End – flush with end edge of cell
Center – centers in cell
Stretch – fills whole height of cell (default)

CSS Grids: Justify-items

Aligns grid items along the inline (row) axis. Used at the container level.

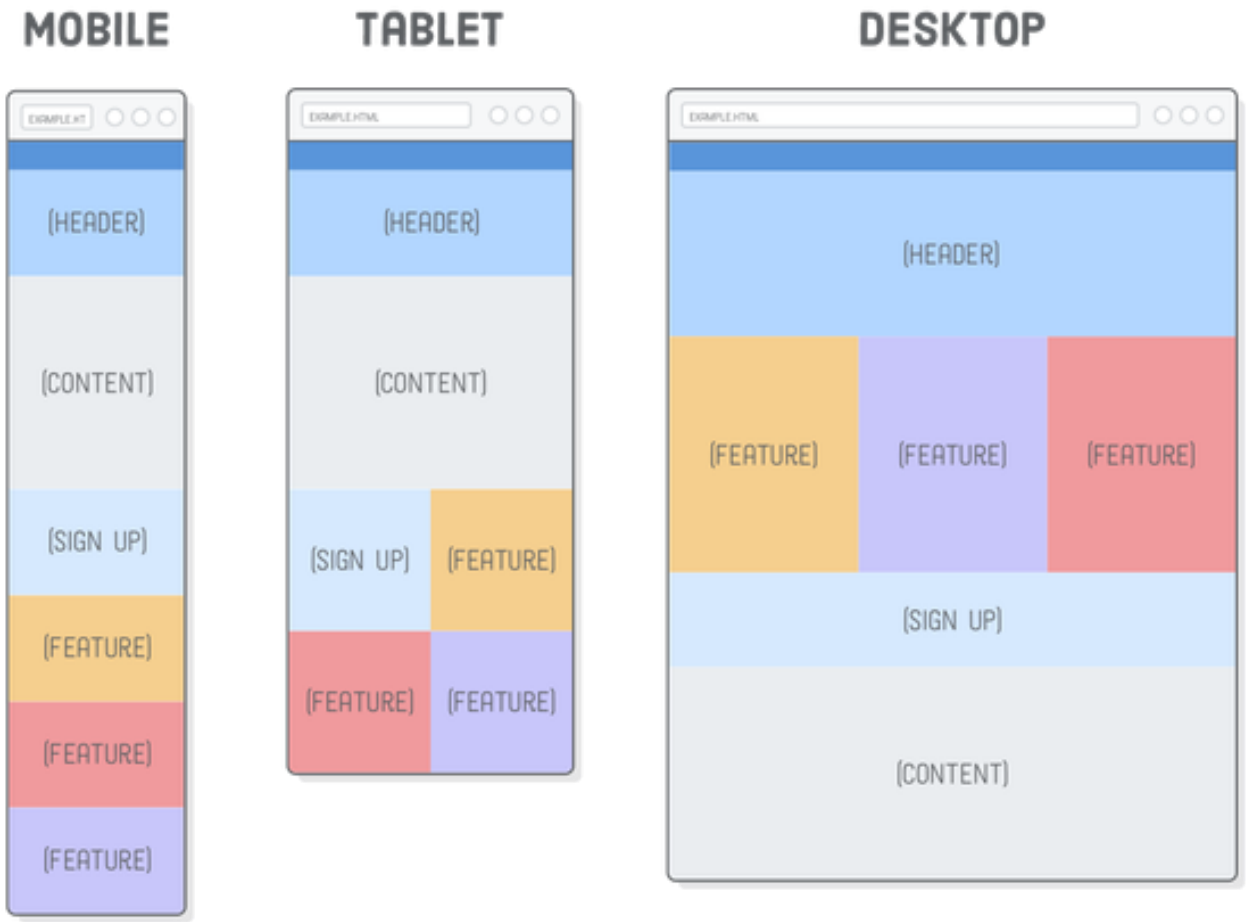
```
body {
 display: grid;
 grid-template-columns: 1fr 2fr 2fr 2fr 2fr 1fr;
 grid-template-rows: 100px 1fr 100px;
 justify-items: start;
}
```



Start – flush with start edge of cell
End – flush with end edge of cell
Center – centers in cell
Stretch – fills whole height of cell (default)

Let’s do some coding!

RESPONSIVE DESIGN



RWD: Setting the viewport

- Add meta tag to all web pages:

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
```

- This sets viewport of the page, giving browser instructions on how to control dimension and scaling

RWD: creating responsive images

- Allowing images to scale to fit any browser size.

```
<img src="img_girl.jpg" style="width:100%;">
```

- Above will allow image to be scaled larger than original size. Can set max-width instead – image will scale down but never larger than original size

```
<img src="img_girl.jpg" style="max-width:100%;height:auto;">
```

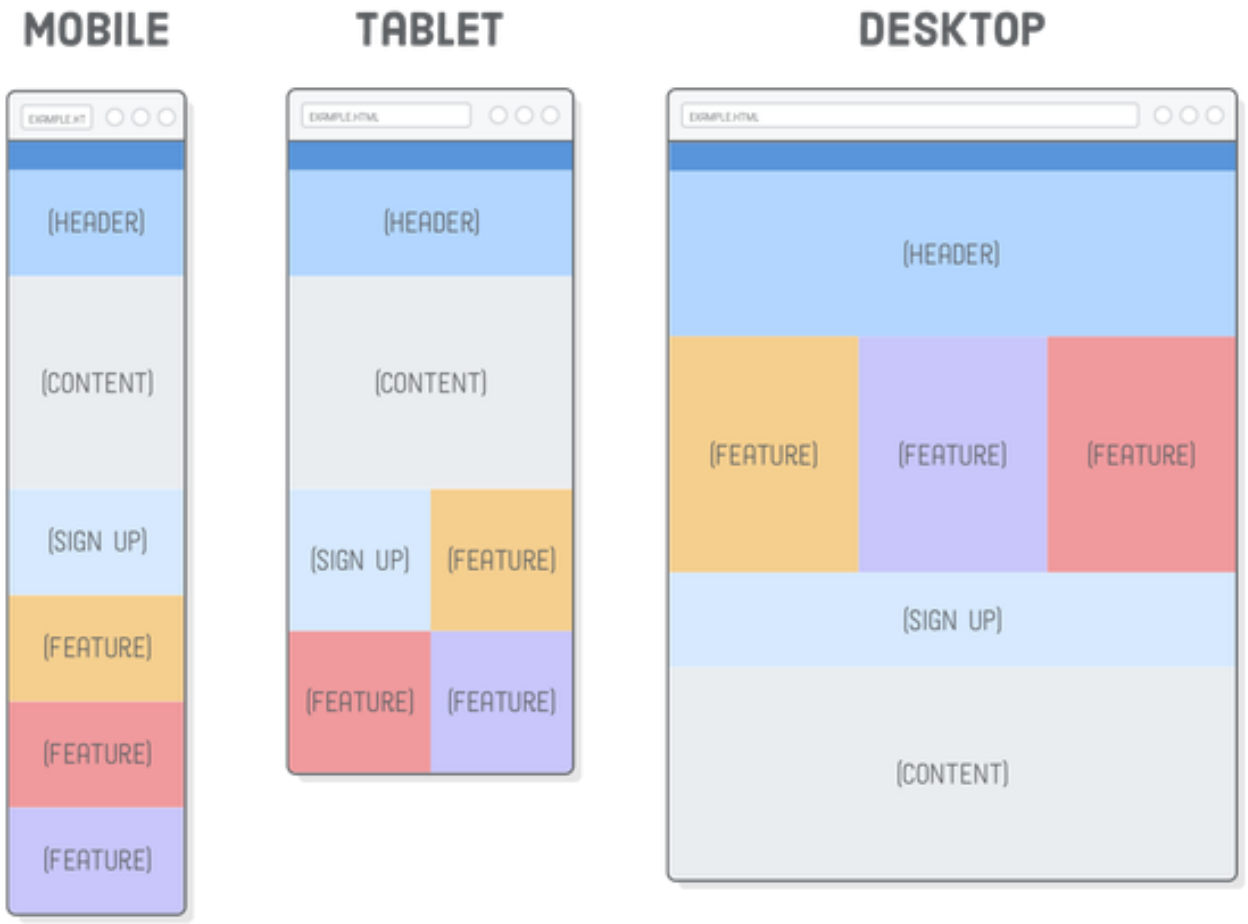
RWD: creating responsive text

- Allowing text to scale to fit any browser size.

```
<h1 style="font-size:10vw">Hello World</h1>
```

- Depending on size of viewport, text will grow or shrink to scale.

RESPONSIVE DESIGN



MEDIA QUERIES

```
@media only screen and (max-width: 600px) {
  body {
    background-color: lightblue;
  }
}
```

For screens up to the maximum width of 600px, the background color will be lightblue.

Let’s do some coding!