# Responsive Design

- a technique to make a web page adjust the layout to any SCREEN SIZE

- makes WEBSITES usable on all DEVICES

- it’s a set of best practices used in CSS

# Responsive Design Principles

### Fluid Layouts

- allow the webpage to adapt to the viewport width (or even height)

- **use %** (or vh / vw) unit instead of px for ALL ELEMENTS THAT SHOULD ADAPT (layout)

- use **max-width** instead of width

### 2. Responsive units

- we should use **“REM”** instead of px for most length

- this makes easy to scale the entire layout down or up AUTOMATICALLY

- TRICK – **set 1rem to 10px** for easy calculations

### 3. Flexible and Fluid Images

- by default, images behave Different than text content, as we change the viewport

- **ALWAYS use %** for Image DIMENSIONS, together with max-width property

### 4. Media Queries

- bring responsive sites to life

- the change CSS Styles on certain viewport widths (breakpoints)

- we write media queries only at the end of building a page or element

# Desktop First vs Mobile First Dev

### Desktop First

- we design the CSS for Desktop: **large screens**

- we use **Media Queries** to adapt the design to smaller screens

- Traditional way

### Mobile First

- design the CSS for **small screens**

**-** Use **Media Queries to EXPAND** the design

- Forces us to reduce websites and apps to the absolute essentials

- **The MORE MODERN WAY**

## Max-width

- using just WIDTH, when we make the window smaller than the WIDTH we defined, the browser will need to create additional space and we will have a scroll bar

- using **MAX-WIDTH** , the element will occupy the width of the PARENT only, when the screen is smaller

### REM

- REM = ROOT ELEMENT font size

- the ROOT element is the HTML

- if we don’t define a font size to the HTML, the default is 16px 🡪 1rem

**-** **DEFAULT -> 1rem == 16px**

EX:

Max-width: 50rem; 🡺 max-width: 50 \* 16 = 800px

Font-size: 2rem 🡺 2 \* 16 = 32px

Padding: 4rem 🡺 4 \* 16 = 64px

- **we can CHANGE the DEFAULT**

- on the HTML element 🡺 font-size: 10px;

- **1rem == 10px**

EX:

Max-width: 50rem 🡺 50 \* 10 = 500px;

Font-size: 2rem 🡺 2 \* 10 = 20px