Introduction to CSS

- **A bit of history**
- **Anatomy of a CSS rule**
  - RULE SYNTAX
  - PROPERTY CONFLICTS
  - COMMENTS
  - AT-RULES
- **How CSS is used**
  - INLINE STYLES
  - STYLE BLOCKS
  - EXTERNAL STYLE SHEETS
- **Web resources**
  - CANIUSE.COM
  - MOZILLA DEVELOPER NETWORK
- **CSS preprocessors**
  - NESTED RULES
  - VARIABLES
  - MIXINS
- **How CSS works in the browser**
  - THE DOCUMENT OBJECT MODEL (DOM)
  - THE CSS OBJECT MODEL (CSSOM)
  - THE RENDER TREE
  - LAYOUT AND PAINT

CSS Selectors

Basic selector types
- THE UNIVERSAL SELECTOR
- ELEMENT SELECTORS
- ID SELECTORS
- CLASS SELECTORS
- ATTRIBUTE SELECTORS

Compound selectors

Multiple independent selectors

Selector combinators
- DESCENDANT COMBINATOR
- CHILD COMBINATOR
- GENERAL SIBLING COMBINATOR
- ADJACENT SIBLING COMBINATOR
- USING MULTIPLE COMBINATORS

Pseudo-classes
- UI STATE
- DOCUMENT STRUCTURE
- NEGATING A SELECTOR

Specificity
- SPECIFICITY RANKINGS
- CALCULATING SPECIFICITY

Basic CSS Concepts

- The box model
  - BOX SIZING
    - content-box
    - border-box
- Block and inline elements
  - BLOCK ELEMENTS
  - INLINE ELEMENTS
  - INLINE-BLOCK ELEMENTS
- Units
  - PX
  - EM
  - REM
  - VIEWPORT UNITS: VW AND VH
  - PERCENTAGE: %
- Functions
  - CALC
- Colors
  - PREDEFINED COLORS
  - RGB COLORS
  - Alpha value
  - HSL COLORS
  - TRANSPARENT
  - NEWER COLOR SYNTAX
- Overflow
  - HANDLING OVERFLOW
    - hidden
    - scroll
    - auto
- CSS variables
  - USING VARIABLES
  - VARIABLE INHERITANCE
  - USING VARIABLES IN CSS CALCULATIONS

Basic Styling

- **Property values**
  - GLOBAL KEYWORDS
  - SHORTHAND AND MULTIPLE VALUES
- **Borders**
  - BORDER-COLOR
  - BORDER-WIDTH
  - BORDER-STYLE
  - BORDER
  - BORDER-COLLAPSE
  - BORDER-RADIUS
- **Box shadows**
- **Opacity**
- **Hiding elements**
  - DISPLAY: NONE
  - VISIBILITY: HIDDEN
  - OPACITY: 0

Backgrounds and Gradients
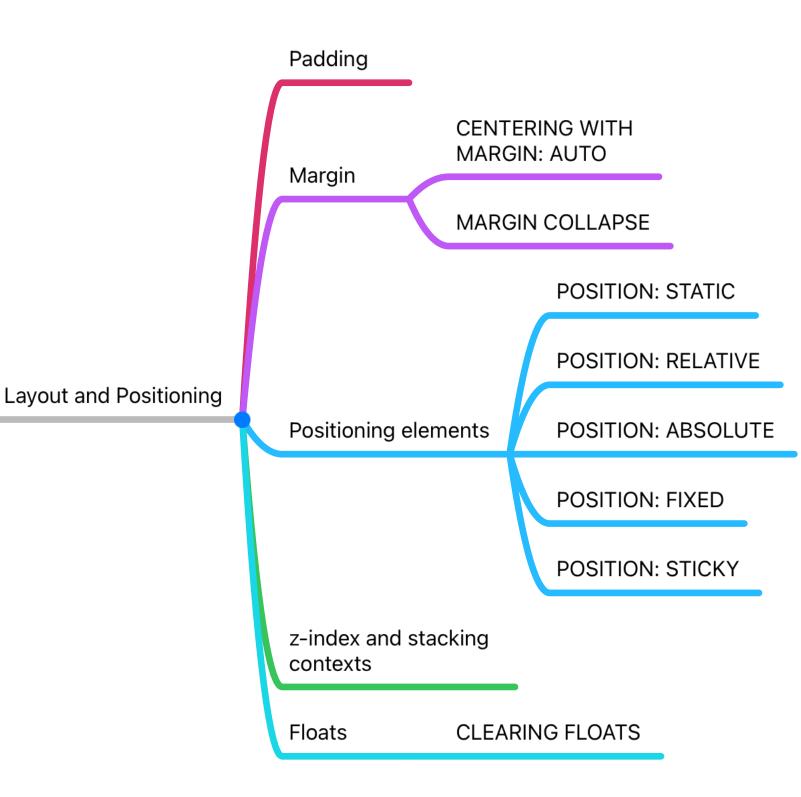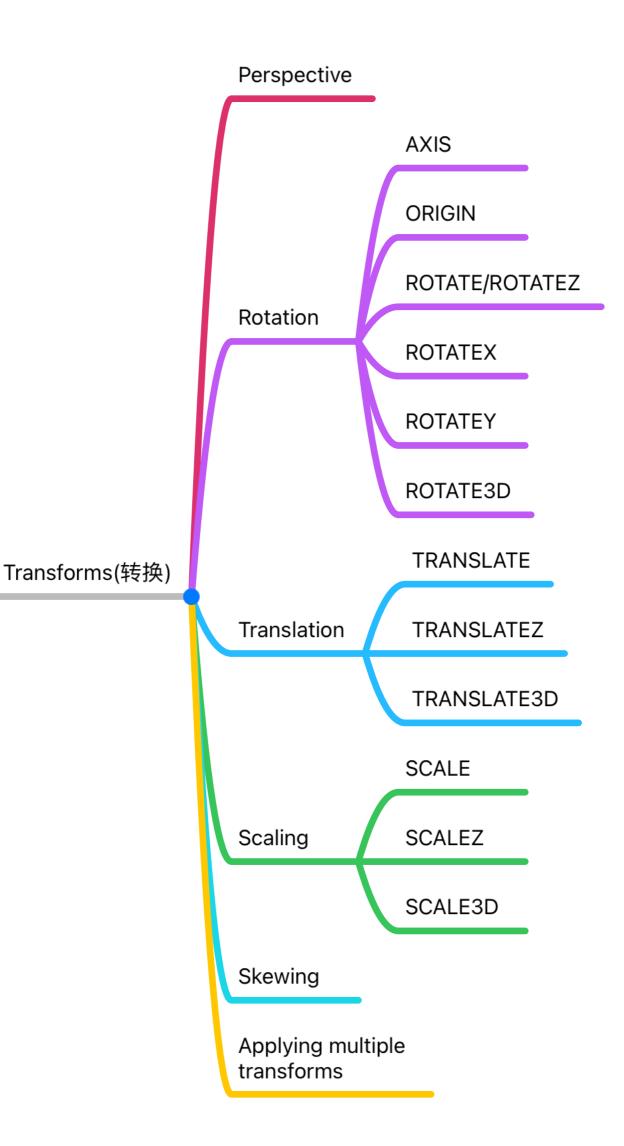
- Solid background colors
- Background images
  - BACKGROUND-IMAGE
  - BACKGROUND-REPEAT
  - BACKGROUND-POSITION
  - BACKGROUND-SIZE
  - BACKGROUND-CLIP
- Gradients
  - LINEAR GRADIENTS
    - Adding more stops
    - Using transparency
    - Changing the direction
    - Customizing stops
  - RADIAL GRADIENTS
    - Customizing the shape and position
    - Customizing the size
    - Customizing stops
    - Multiple gradients
- Combining backgrounds
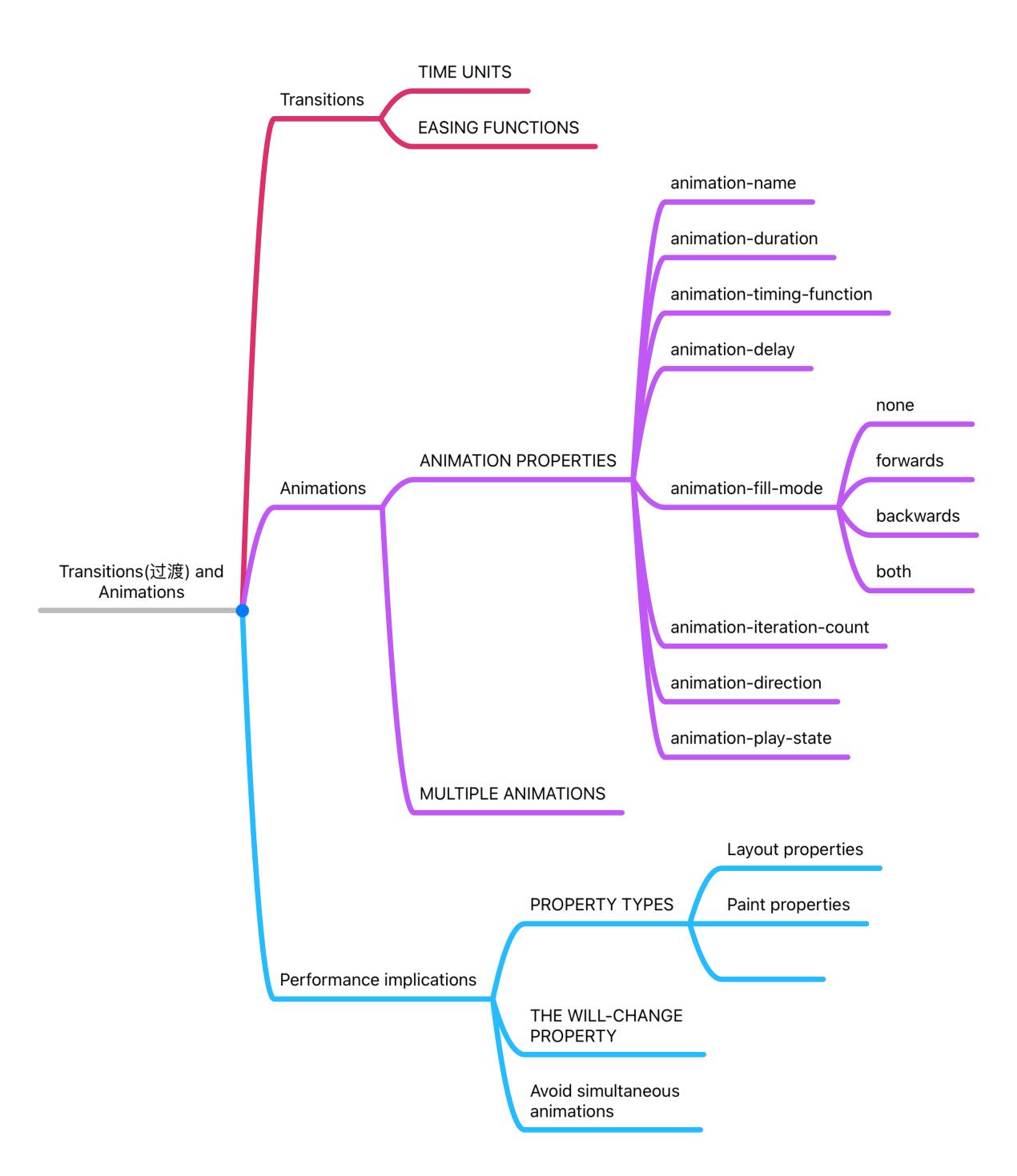
Text Styling
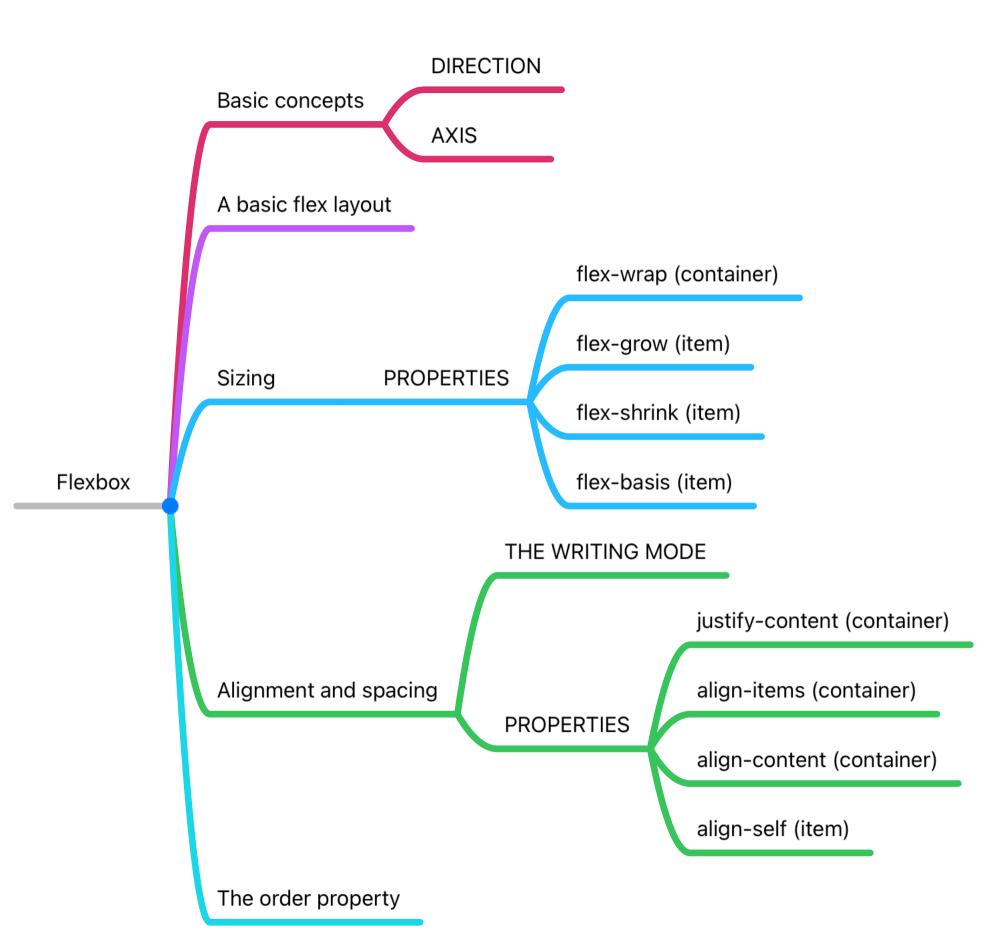
- **Fonts**
- **Basic text styling**
  - FONT-FAMILY
  - FONT-SIZE
  - COLOR
  - FONT-WEIGHT
  - FONT-STYLE
  - TEXT-DECORATION
  - OTHER TEXT EFFECTS
    - text-transform
    - letter-spacing
    - font-variant
- **Text layout**
  - TEXT-INDENT
  - WHITE-SPACE
  - TRUNCATING TEXT
  - LINE-HEIGHT
  - HORIZONTAL ALIGNMENT
  - VERTICAL ALIGNMENT
- **Using web fonts**
  - @FONT-FACE
  - DECLARING DIFFERENT WEB FONT STYLES
- **Text shadow**

Layout and Positioning

- Padding
- Margin
  - CENTERING WITH MARGIN: AUTO
  - MARGIN COLLAPSE
- Positioning elements
  - POSITION: STATIC
  - POSITION: RELATIVE
  - POSITION: ABSOLUTE
  - POSITION: FIXED
  - POSITION: STICKY
- z-index and stacking contexts
- Floats
  - CLEARING FLOATS

Transforms(转换)

- Perspective
- Rotation
  - AXIS
  - ORIGIN
  - ROTATE/ROTATEZ
  - ROTATEX
  - ROTATEY
  - ROTATE3D
- Translation
  - TRANSLATE
  - TRANSLATEZ
  - TRANSLATE3D
- Scaling
  - SCALE
  - SCALEZ
  - SCALE3D
- Skewing
- Applying multiple transforms

Transitions(过渡) and Animations

- Transitions
  - TIME UNITS
  - EASING FUNCTIONS
- Animations
  - ANIMATION PROPERTIES
    - animation-name
    - animation-duration
    - animation-timing-function
    - animation-delay
    - animation-fill-mode
      - none
      - forwards
      - backwards
      - both
    - animation-iteration-count
    - animation-direction
    - animation-play-state
  - MULTIPLE ANIMATIONS
- Performance implications
  - PROPERTY TYPES
    - Layout properties
    - Paint properties
  - THE WILL-CHANGE PROPERTY
  - Avoid simultaneous animations

Flexbox

- **Basic concepts**
  - DIRECTION
  - AXIS
- **A basic flex layout**
- **Sizing** — PROPERTIES
  - flex-wrap (container)
  - flex-grow (item)
  - flex-shrink (item)
  - flex-basis (item)
- **Alignment and spacing**
  - THE WRITING MODE
  - PROPERTIES
    - justify-content (container)
    - align-items (container)
    - align-content (container)
    - align-self (item)
- **The order property**

Responsive Design

- The viewport meta tag
- Media queries
- Breakpoints
- Responsive layouts with flexbox
- Fluid typography — THE CLAMP FUNCTION
- Responsive images
- Adapting a layout with media queries