

# Hypertext Markup Language

- Language used to markup documents in the WWW
  - Structure
  - Presentation
- Versions
  - HTML 2.0, 3.2, 4.0
  - HTML 4.01
    - Strict - deprecated
    - Transitional - still make use the deprecated
    - Frameset - using frames
  - HTML 5 (working draft)
- Head
  - title, base, link, meta, style, script
- Body
  - Grouping elements (div, span)
  - Headings (h1 - h6)
  - Paragraphs, line breaks, horizontal rules (p , br , hr)
  - Lists (ul, ol, li, dl, dt, dd, dir, menu)
  - Tables (table, th, tr, td, thead, tfoot, tbody, colgroup, col)
  - Structured text
    - Phrase elements (em, strong, dfn, code, samp, kbd, var, cite, abbr, acronym)
    - Quotations (blockquote, q)
    - Subscripts and superscripts (sub, sup)
    - Preformatted texts (pre)
  - Font styles and alignments (tt, i, b, big, small, strike, s, u, font, basefont, center)
  - Document changes (ins, del)
  - Links and anchors (a)
  - Objects, images, applets (object, img, param, applet)
  - Scripts (script, noscript)
  - Miscellaneous (address, bdo)
  - Frames, noframes, iframe
  - Frameset (for frameset DTD)
  - article, aside, nav, section
  - header, footer
  - main
  - address
  - DIV

## XHTML

- Author Style
- User Style
- User Agent Style

## Cascading Style Sheets

- Language used to specify the presentation aspects (i.e. layout and formatting of structurally marked up (e.g. HTML, XML, XHTML, SVG, etc.) document).
- Developed by **Hakon Wium Lie** (HTML Cascading Style Sheets / CHSS) and **Bert Bos** (Stream-based Style Sheet Proposal/ SSP)
- Version:
  - CSS 1 (December 17, 1996)
  - CSS 2.1 (June 7, 2011)
  - CSS 3 (structural semantic markup / modularizes CSS 2.1)
- CSS preprocessors, CSS frameworks
  - sass, less ago grid system, bootstrap, foundation, materialize, etc.

## Reset CSS

Standard Style Sheet that contains all the default

## CSS Statement

- @ charset
- @ import
- @ media
- @ font-face
- @ keyframe
- @ page

## CSS Rule Sets

(a.k.a CSS Rules, Style Rules)

- Selector, Declaration block, Property declarations, Property name, Property value.
- Selector-Structure used as a condition in CSS.

- Selector Syntax-chain of one or more sequence of simple selectors separated by combinators with one pseudo-element possibly appended to the last sequence.
- Simple Selector
  - Type Selector.
  - Universal Selector - matches everything
  - Attribute Selector
  - Class Selector
  - ID Selector
  - Pseudo class
    - Dynamic Pseudo-classes
      - Link pseudo-classes
        - :link
        - :visited
      - User action pseudo-classes
        - :hover
        - :active
        - :focus
    - Target pseudo
      - :target<sup>css3</sup>
    - Language Pseudo-class
      - :lang()
    - UI Element States pseudo-classes
      - :enabled<sup>css3</sup>
      - :disabled<sup>css3</sup>
      - :checked<sup>css3</sup>
      - :indeterminate<sup>css3</sup>
    - Structural pseudo-classes
      - :root<sup>css3</sup>
      - :first-child
      - :last-child<sup>css3</sup>
      - :only-child<sup>css3</sup>
      - :nth-child()<sup>css3</sup>
      - :nth-last-child()<sup>css3</sup>
      - :first-of-type<sup>css3</sup>
      - :last-of-type<sup>css3</sup>
      - :only-of-type<sup>css3</sup>
      - :nth-of-type()<sup>css3</sup>
      - :nth-last-of-type()<sup>css3</sup>
      - :empty<sup>css3</sup>
    - Negation pseudo-class
      - :not()<sup>css3</sup>

- Combinators
  - Descendant combinator (whites-space, i.e. space, tab, carriage return, form feed)
  - Child combinatory (>)
  - Sibling combinators
    - Adjacent sibling combinatory(+) - succession
    - General sibling combinatory (-) css3 - follows particular siblings
- Pseudo-elements
  - ::first - letter<sup>css3</sup>, :first-letter
  - ::first - line<sup>css3</sup>, :first-line
  - ::before<sup>css3</sup>, :before
  - ::after<sup>css3</sup>, :after

## CSS Rule Preferences

- By origin and importance
  - User agent important declarations
  - User important declarations
  - Author important Declarations
  - Author normal Declarations
  - User normal Declarations
  - User agent normal Declarations
- By specification
  - Inline Style (more specific)
  - Number of ID selectors
  - Number of class selectors, attribute selectors, and pseudo-classes
  - Number of type selectors and pseudo-elements
- By order

## CSS Declaration

- Properties
  - Shorthand properties
  - Vendor-specific extensions (a.k.a vendor prefixes)
- Values
  - Keywords
  - Numbers (integer and reals in decimal notation)
  - Dimensions
    - Length units:
      - Font-relative: em, ex, ch, rem

- Viewport-percentage: vw,vh,vmin,vmax
- Absolute lengths: cm, mm, q, in, pt, pc, px
- Angle units: deg, grad, rad, turn
- Duration units: s, ms
- Frequency Units: hz, khz
- Resolution units: dpi, dpcm, dppx
- Percentages
- URLs and URIs
- Colors
- Strings
- Functions:
  - calc(), attr(), counter(), counters(), linear-gradient(), radial-gradient(), translate(), scale(), rotate(), etc.

## JavaScript

- Functions
  - - abstraction of code blocks
  - - function expression
  - - arrow syntax
  - - recursive
  - - functions can be nested
  - - 'this', 'arguments', and 'apply'
  - - functions can have default values
  - - function rest parameters
- Arrays
  - - () = Object Constructor
  - - [] = Literal Syntax
    - The element of an array can also be an array and reindexing is available.
    - It can also have mixed elements inside the array.
  - Array Destructuring
    - Assigning an element in the array to a specific variable.
    - Elements can be skipped using a comma(',')
  - Array indexes can be non-contiguous
  - You can also change the length of an array ex: array.length=10
  - Methods

- Mutator Methods
  - Mutates or changes the array accessor method
- Accessor Methods
  - Does not modify the elements in the array but returns a representation in it
- Iterator Methods
  - Iterated the array , specifies action for each element in the array
  - Some examples of array commands
- `array['example'] = 4`
  - Assigns a value
- `array.push`
  - Adds element at the end of the array
- `array.shift`
  - Shifts positions down
- `array.unshift`
  - Inserts an element in front of the array
- `array.reverse`
  - Reverses the elements in the array
- `array.splice(2,3)`
  - The first element indicates the starting point where it will be spliced while the second element indicates the number of elements to be spliced
- `array.length=' '`
  - sets the length of the array to whatever value is provided
- `array.join`
  - Joins the elements as strings
- `array.every`
  - checks every element in the array if it satisfies the condition given
- Objects
  - Prototype Based
    - Object Properties and Methods
  - `student.idno=' '`;
  - `student['name']=' '`;
  - You can also attach a function
  - JSON
    - Javascript Object Notation
  - `JSON.stringify`
    - Converts objects to strings
  - `JSON.parse('objects')`
    - converts strings to objects