Cascading Style Sheets

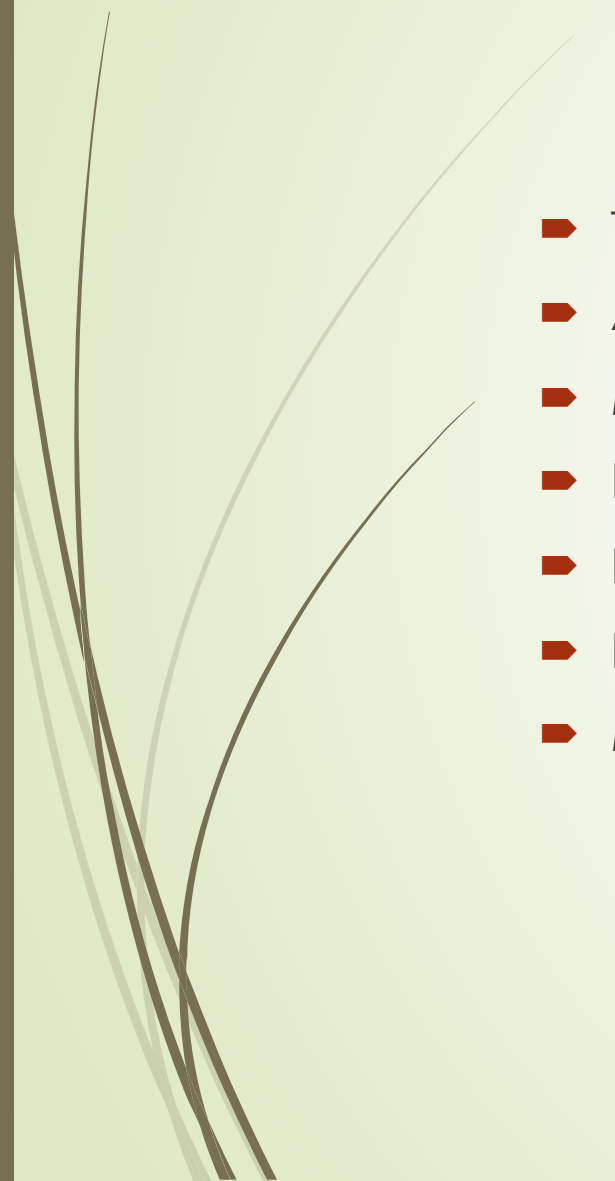# Agenda

- Inroduction
- Selectors
- Color - gradients
- Background
- Text
- Lists
- Tables
- Box Model
- Overflow
- Float
- Drop Shadow
- Transforms

Contd.,

- Transitions
- Animations
- Multicolumn Layouts
- Box Sizing
- Flex Box
- Filters
- Media Queries

Introduction

- **What is CSS?**
  - CSS is the key presentational technology that is used in website design.
- **Advantages of Using CSS**
  - Superior styles to HTML
  - CSS Save lots of time
  - Easy maintenance
  - Pages load faster
  - Multiple Device Compatibility

Different ways to use

- Inline – by using style attribute in html elements

- Internal – by using <style> element in the <head> section

- External – by using an external css file
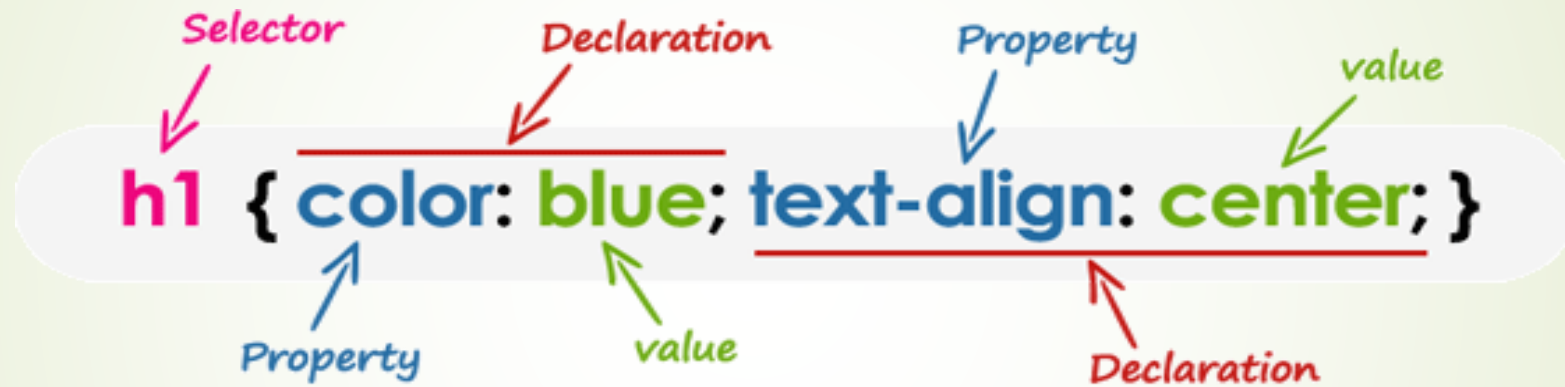
Inline CSS

- **Syntax:**

- <tagname style="property:value;">

- Example:

- <h3 style="color: red;">Hello World!<h3>

CSS Syntax

CSS Selectors

- *A CSS selector is a pattern to match the elements in an HTML document. The associated style rules is applied to the elements that match the selector pattern.*

- **Universal Selector**

  - ***{ margin:0; paddig:0; }**

- **Element Type Selector**

  - **P { color:blue; }**

- **Id Selectors**

  - **#error { color: red; }**

- **Class Selectors**

  - **.blue { color: blue; }**

Contd.,

- **Descendant Selectors**
  - ul.menu li a { text-decoration: none; }
  - h1 em { color: green; }
- **Child Selectors (>)**
  - ul > li { list-style: square; }
- **Adjacend Sibling selector**
  - div + p { background-color: green}
- **General Sibling selector**
  - div + p { background-color: blue; }
- **Grouping Selectors**
  - h1, h2, h3 { color : blue; }

CSS Color

- *The CSS color property defines the foreground color for an element.*
  - body { color: cyan; }
- Colors in CSS most often specified by the following methods:
  - Color name – nameoftheColor
  - RGB Value – (r,g,b) (0 -255)
  - HEX Value - #RRGGBB

CSS3 colors

- Rgba
  - The alpha parameter accepts a value form 0.0 (fully transparent) to 1.0 (fully opaque)
  - { color: rgba(0,0,255, 0.5) }
- HSL
  - Hue is represented as angle (0 – 360), saturation and lightness as percentile
  - { color: hsl(360,60%, 30%) }
- HSLA
  - Alpha specifies the opacity
  - { color : hsla(360, 60%, 70%, 0.7) }

CSS3 Gradients

- *The CSS3 gradient feature allows you to create a gradient from one color to another without using any images.*

- ***Linear-gradient** (direction, color-stop1, color-stop2, …)*

  - *{background: linear-gradient(to right, red, green) }*

- Direction of linear-gradient can be set in angle

  - {background: linear-gradient(90deg, red, green, blue); }

- You can set the location color stops

  - {background: linear-gradiet(left, red, yellow 30%, blue 40%) }

- Repeating linear gradients

  - { background: repeating-linear-gradient (black, white 30%, lime 40%); }

Contd.,

- **Radial Gradients**
- Radial-gradient (shape size at position, color-stop1, color-stop2, …);
- { background: radial-gradient(circle farthest-side at left-bottom, blue, cyan) }
- You can repeat the radial gradients
- { background: repeating-radial-gradient(oval closest-side at right-top, blue, yellow) }

CSS Background

- *CSS background properties are used to define background styles for the elements.*

- Background-color

- Background-image : url("addressofimage");

- Background-repeat : repeat-x/y;

- Background-attachment : fixed;

- Background-position : 100% top;

- Background shorthand property :
  background: *color image repeat attachment position;*

CSS3 Background

- *With CSS3, you can apply multiple backgrounds to elements.*

- Background-size – specifies the image size in pixels, percentiels, or using keywords like auto, contain and cover

- Background-clip – specifies whether elements background extends into border or not, it takes 3 values border-box, content-box, padding-box

- Background-origin – specifies the positioning area of the background images

- The number of layers / images are determined by the number of comma separated values, in the background-image / background shorthand property.

- { background: url("birds.jpg") no-repeat center, url("clouds.jpg") no-repeat right, url("showers") no-repeat left }

CSS Fonts

- *The CSS font properties allows you to set various styles for fonts likes font family, size and boldness, variant, etc. of a text.*

- font-family: "name of the font";

- Font-style: normal/italic/oblique

- Font-size:xx-small, x-small, small, large, x-large, xx-large / smaller, larger /pixels/em

- Font-weight: normal, bold, bolder, lighter, 100, 200, 300, 400, 500, 600, 700, 800, 900, inherit

- Font-variant: small-caps;

CSS Text

- *CSS text properties allow you to define several text styles such as color, alignment, spacing, decoration, transformation etc.*

- *Text-color : color*

- *Text-alignment : left, right, center, justify, inherit*

- *Text-decoration: none, underline, overline, line-through, blink, inherit*

- *Text-transformation: uppercase, lowercase, capitalize*

- *Text-indentation: percentage, length, inherit*

- *Word-spacing: length, normal, inherit*

- *Letter-spacing: length, normal, inherit*

- *Line-height: percentage, length, number, normal, inherit*

CSS Links

- *A link or hyperlink is a connection from one web resource to another*
- *a:link / unvisited*
- *a:visited*
- *a:active*
- *a:hover { color,font-family, font-size, background-color, etc., }*

CSS Lists

- *The list properties used to control the presentation of list item markers.*

- List-style-type: circle,square,roman,numerals, etc.,

- List-style-position: inside, outside

- List-style-image: url("address")

- Shorthand property: list-style: list-style-type | list-style-position | list-style-image

- Styling list with colors: ul { background-color: cyan; padding: 20px; }

- li { background-color: magenta; padding: 10px; margin-left: 40px;

CSS Tables

- **Adding Borders to Tables**
  - **Table, th, td { border: 1px solid blue; }**
- **Collapsing Table Borders**
  - **Table { border-collapse: collapse; }**
- **Controlling Table Layout**
  - **Table { table-layout: auto/fixed;**
- **Handling Empty Cells**
  - **Table { empty-cell: hide; }**
- **Controlling the Position of Table Caption**
  - **Caption { caption-side: bottom; }**
- Horizontal alignment (th, td { text-align: left/center/right })
- Vertical alignment (th, td { text-aligh: top/bottom/middle})
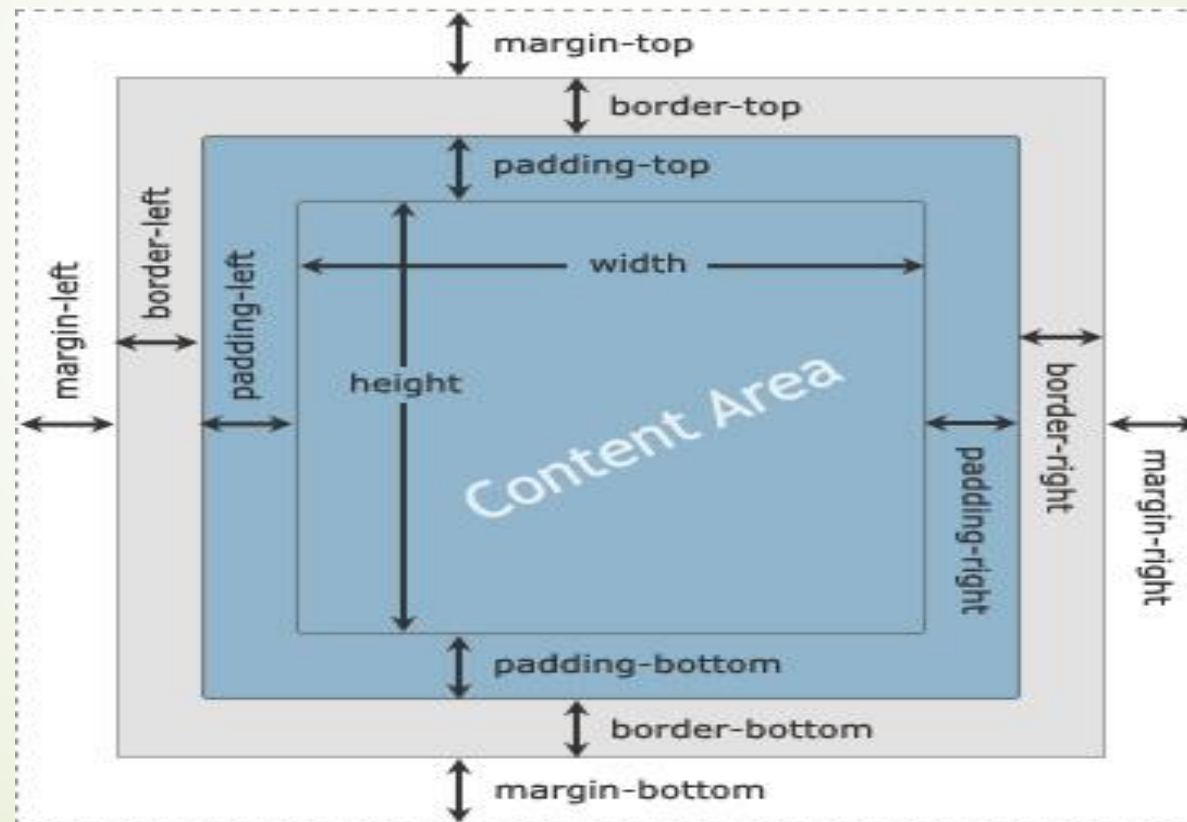- Table padding (th,td { padding: length; })

Contd.,

- Horizontal dividers   - th, td { border-bottom: 1 px solid red; }
- Hoverable table - tr:hover {background-color: #f5f5f5}
- Stripped table - tr:nth-child(even) {background-color: #f2f2f2}
- Table color - th { background-color: green, color: white }
- Responsive table - <div style="overflow-x:auto;">

CSS Box Model

- *The CSS box model describes how elements are visually laid out on the web pages.*

CSS Margin

- *Margin clears an area around the border that separates it from other boxes.*

- { margin: margin-top margin-right, margin-bottom, margin-left }

CSS Padding

- *The padding area is the space between the content of the element and its border.*

- { padding: padding-top padding-right, padding-bottom, padding-left }

CSS Border

- *Border of an element goes around the padding and content.*
- **The border-width Property**
  - it is a shorthand property for setting the thickness of all four sides
  - { border-width: medium 10px thick 15px; }
- **The border-style Property**
  - { border-style: none, hidden, dashed, dotted, double, groove, inset, outset, ridge and solid }
- **The border-color Property**
  - **Use it with border style {** border-color : color; }
- **The border Shorthand Property**
  - **{ border :** border-style, border-width, border-color }

Contd.,

- **With CSS3 you can add two more properties**

- **Border-radius :** border-top-left-radius, border-top-right-radius, border-bottom-right-radius, border-bottom-left-radius

- **Border-image:** image_url, image_slice, image_width, image_outset, image_repeat

CSS Outline

- *An outline is a line that is drawn just outside the border edge of the elements such as buttons, active form fields, etc., to make them stand out.*

- **The outline-width Property { outline-width: width; }**

- **The outline-style Property {outline-style: style }**

- **The outline-color Property {outline-color: color }**

- **The outline Shorthand Property { outline:** outline-width, outline-style, outline-color }

- **Removing Dotted Line Around Active Links**

  - **a, a:active, a.focus { outline: none; }**

CSS Overflow

- *The overflow property specifies the behavior that occurs when an element's content overflows (doesn't fit) the element's box.*

- { overflow: visible / hidden / scroll / auto }

CSS3 Text overflow

- **Hiding Overflow Text**
- { text-overflow: clip | ellipsis |string }
- **Breaking Overflow Text**
- { word-wrap: normal | break-word }
- **Specify Word Breaking Rules**
- { word-break : normal | break-all | keep-all }

CSS Display

- *The display property controls the box's type generated by an element.*
- { display : inline / block / inline-block / none }

CSS Visibility

- *The visibility property determines whether an element is visible or hidden.*

- { visibility: visible / hidden / collapse / inherit }

CSS Float

- *The CSS float property specifies whether a box should float or not.*
- { float: left / right / none }
- **Turning off Float Using Clear Property**
- { clear: left }

CSS3 Drop Shadows

- *With CSS3, you can apply drop shadow to an element.*
- Box-shadow property:
  - { box-shadow: offsetX offsetY blurRadius color }
  - You can add multiple box shadows using comma separated list
- Text-shadow property:
  - { text-shadow: offsetX offsetY blurRadius color }
  - You can add multiple text shadows using comma separated list

CSS3 Transitions

- *The CSS3 transition feature allows the changes in CSS property values to occur smoothly over a specified duration.*

- *Transition-property*

- *Transition-delay*

- *Transition-duration*

- *Transition-timing-function*

  - *ease, ease-in, ease-out, ease-in-out, linear,cubic-bezier(n,n,n,n)*

CSS3 Multi-Column Layouts

- *With CSS3, you can split the text content of an element in multiple columns.*
  - *column-count*
  - *column-width*
  - *column-gap*
  - *column-rule*

CSS3 Box Sizing

- *With CSS3 box sizing feature you can control element's effective width.*

- The CSS3 box sizing property allows you to include the padding and border in an elements total width and height

- **border-box**

  - It includes padding+border in total width and height

  - { box-sizing: border-box; }

CSS3 Flexible Box Layouts

- *The CSS3 Flexible Box, or flexbox, is a new layout model for creating the more flexible user interface design.*

- **How Flex Layout Works**

- Flex consists of flex-containers and flex items.

- A flex container can be created by setting the display property of an element to either flex or inline flex.

- All child elements of flex container will automatically become flex items and are laid out using the flex layout model.

Contd.,

- **Controlling Flow inside Flex Container**
- -webkit-flex-direction
- -webkit-justifycontent
- -webkit-align-items
- -webkit-flex-wrap
- **Properties for flex items**
- order
- align-self
- flex

CSS3 Filters

- *The CSS3 filter effects provide an easy way to apply the visual effect to the images.*
- blur()
- brightness()
- contrast()
- dropshadow()
- grayscale()
- hue-rotate()
- invert()
- opacity()
- saturate()
- sepia()
- url()

Content

- CSS Property

- It can only be used with pseudo elements (:before and :after)

- .email_address:before{

  - content: "Email address: ";

  - }

  <li class="email_address">skmptgwt@gmail.com

Namespaces

- @namespace is an at-rule that defines XML namespaces to be used in a CSS style sheet.
- The defined namespaces can be used to restrict the universal, type and attribute selectors to only select elements within that name space
- This rule is useful when dealing with documents containing multiple namespaces such as html5 with inline svg.
- Example:
- @namespace url(http://www.w3.org/html);
- @namespace svg(http://www.w3.org/svg);
- a{} – this mathes all html a elements
- svg|a{} – this matches all svg a elements
- * | a{} – this matches both html and svg elements

CSS3 Media Queries

- *CSS media queries enable you to format your documents to be presented correctly on different size of output devices.*

- Media queries can be used to check many things, such as:
  - width and height of the viewport
  - width and height of the device
  - orientation (is the tablet/phone in landscape or portrait mode?)
  - resolution

Media Query Syntax

- @media not|only *mediatype* and (*expressions*) {
    CSS-Code;
  }

CSS3 Media Types

Value	Description
all	Used for all media type devices
print	Used for printers
screen	Used for computer screens, tablets, smart-phones etc.
speech	Used for screenreaders that "reads" the page out loud