Please find the HTML and CSS Reference Cards at the back of this exam paper (P20-P27).

Please do not tear out any pages from this exam paper.

Please use PEN to answer the questions in Section B and Section C.

Office Use Only:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Attempted?</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section A: (Q1-Q20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section B: (Q21-Q30)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section C: (Q31)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Section C: (Q32)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section A: Multiple Choice Questions (20 marks)

There are 20 questions in this section. Each question is worth 1 mark. Candidates should answer ALL questions in this section.

Identify the letter of the choice that best completes the statement or answers the question. Make sure you mark the answers on the separate Multiple Choice Answer Sheet provided. This will be marked automatically by a computer program. Marks will not be allocated if you answer the multiple choice questions here.

1. Given a file structure in the figure below, which of the following is the correct relative pathname to index.html from part1.html?

   ![File Structure Diagram]

   A. ___/tutorial/index.html
   B. /tutorial/index.html
   C. ../index.html
   D. ./index.html

2. Referring to the same figure above, what’s the absolute URL for part1.html?


3. The multiple attribute indicates that:

   A. a <selection> list is displayed in multiple groups.
   B. a set of checkboxes <input type= "check"> are not mutually exclusive.
   C. a <selection> list allows for multiple selections.
   D. a set of radio buttons <input type= "radio"> are not mutually exclusive.

4. ____ is a video format developed by Microsoft for Windows Media Player.
A. MPEG  
B. AVI  
C. RealVideo  
D. QuickTime

5. To control the size of a digital audio file, you can manipulate the ____.
   A. frame rate  
   B. sampling resolution  
   C. sound wave’s amplitude  
   D. value of the width and the height attribute of the <embed> element

6. Given a For loop counter of  for (var i = 1; i <= 5; i+=2) , the counter values are ____.
   A. 1 and 3  
   B. 1, 3, and 5  
   C. 5, 3, and 1  
   D. 1, 2, 3, 4 and 5

7. Which of the following is not a legal JavaScript statement for accessing objects?
   A. document.images[1].src="exam.gif";  
   B. document.myform.mytextbox.value = "myname";  
   C. document.getElementById["myID"] .src="exam.gif";  
   D. document.p[1]="text for my first paragraph";

8. Among the following types of style rules, ____ has the highest priority.
   A. User Defined Rules  
   B. External Style Rules  
   C. Embedded Rules  
   D. Inline Styles

9. Which of the following sets a width of 150 pixels to the <title> element from any namespace?
   A. #|title {width: 150px}  
   B. *|title {width: 150px}  
   C. ^|title {width: 150px}  
   D. ?|title {width: 150px}

10. Which of the following statements about XML, HTML and SGML is not true?
    A. XML is an extensible mark language more flexible and powerful than HTML.  
    B. SGML is not as popular as XML because it is too complex.  
    C. XML can be used to define XHTML.  
    D. XML is a language extended on XHTML with namespace.

11. What type of image would you choose to show the sketch of a house’s floor plan on the Web?
A. JPEG
B. GIF
C. MPEG
D. Image Map

12. How many web safe colours are there?

A. 216
B. 255
C. 256
D. 1024

13. Which of the following HTML code will affect the vertical alignment of the table content?

A. `<td style="vertical-align: middle">Text goes here.</td>`
B. `<td valign="center">Text goes here.</td>`
C. `<td style="text-align: center">Text goes here.</td>`
D. `<td align="middle">Text goes here.</td>`

14. Which of the following statements is true?

A. Embedded media is preferable to linked media because they give the user a choice of play or stop the media.
B. Linked media is faster to download.
C. You can control the embedded media’s size using height and width, but not with linked media as hyperlinks `<a>` does not allow height and width attributes.
D. Linked media is not downloaded when the web page is loaded.

15. Which one of the following statements is false?

A. In JavaScript, identifier names are case sensitive.
B. JavaScript code can appear in both `<head>` and `<body>` sections.
C. External JavaScript file can be linked using the `<link>` element.
D. JavaScript can be turned off by the users concerning of security.

16. URLs can be used in many different situations to address a Web resource, which of the following is not a valid situation?

A. A URL can be used in an `<img>` element to indicate where the image should come from.
B. A URL can be used in the `<form>` element to indicate the program used to process the form data.
C. A URL can be used in the `<link>` element to connect to an external style sheet.
D. A URL can be used in the `<title>` element to connect this document to a relevant document.

17. Which of the following statements about the `<a>` tag is true?
A. Specifying an internal section of a Web page only requires an anchor element with a name attribute.
B. By default, an anchor element always produces a hyperlink.
C. The only valid attribute for an anchor element is href.
D. Anchor elements can only be used in the navigation bar of a Web page.

18. In CSS, you can override precedence rules by adding the ____ property to a style declaration.
A. !override
B. !main
C. !important
D. !priority

19. The style rule li, em {color: blue} indicates the content of ____ will appear in blue colour.
A. Both <em> and <li> elements
B. Any <em> elements that are inside a <li> element
C. The first <em> element that is inside a <li> element
D. The <li> <em> element

20. The ____ protocol does not support error checking but is suitable for streaming media.
A. FTP
B. HTTP
C. TCP
D. UDP
Section B: Long Answer Questions (50 marks)
There are 10 questions in this section. Each question is worth 5 marks. Candidates should answer ALL questions in this section.

Answers must be written in the space provided.
If there is not enough space, write on the spare pages provided at the end of the paper.
Make sure you clearly indicate the questions you are answering.

21. What is Dynamic Routing? Use an example to explain how it works?

22. Explain how client-side form validation is different from server-side form validation? What benefits does each bring?
23. List two problems of using HTML as a design language. What’s the general solution? How does the solution solve the two problems you listed?

24. Use an example to explain how DHTML works.
25. When you would use a linear site structure in preference to a hierarchical one? How would you implement a linear structure?

26. Write a JavaScript function that calculates the number of days left till the Christmas Date.
27. Explain the relationship between a Document Tree and how a contextual selector like `p em {color:red}` works.

28. Describe the situations of using External Style Sheets, Embedded Style Sheets and Inline Styles. Use both CSS and HTML code to explain how to use each type of the styles.
29. Explain the use of each of the following: URI, URL, and URN.

30. Discuss why a namespace is important? How to declare and use a name space?
Section C: Coding Questions (30 marks)

There are 2 questions in this section. They are worth 10 marks and 20 marks, respectively.
Candidates should answer ALL questions in this section.

Answers must be written in the space provided.
If there is not enough space, write on the spare pages provided at the end of the paper.
Make sure you clearly indicate the questions you are answering.

31. (10 marks) Consider the following XML document.

```xml
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<?xml-stylesheet type="text/css" href="parts.css" ?>

<parts>
  <message>
    <![CDATA[
      Parts for printers
    ]]>  
  </message>

  <part id="chx201">
    <title>Chassis and Roller Kit</title>
    <description>PR205 chassis and rollers</description>
    <instock>512</instock>
  </part>

  <part id="fa100-5">
    <title>Fuser Assembly</title>
    <description>Fuser assembly/JE series</description>
    <instock>1253</instock>
  </part>

  <part id="eng005-2">
    <title>Engine Kit</title>
    <description>Printer engine kit/JE series</description>
    <instock>3895</instock>
  </part>

</parts>
```

PTO for Questions

1) Write a style sheet `parts.css` to produce a page layout like in the screen shot below;
2) Draw a document tree of this XML document.

![Document Tree of XML]

**Parts for printers**

- **CHASSIS AND ROLLER KIT**
  - PR205 chassis and rollers
  - 512

- **FUSER ASSEMBLY**
  - Fuser assembly/JE series
  - 1253

- **ENGINE KIT**
  - Printer engine kit/JE series
  - 3895

*Answer this XML question here and on the next page*
ANSWER THIS XML QUESTION HERE (CONT.)

(10 marks)
32. (20 marks) Write a complete HTML document and an external style sheet that meets the following requirements and produces a Web page that looks like the screenshot below.

The page is entitled “Places to go around Perth” and stored in a file called places.html. The page uses Arial or Sans Serif font. It contains 3 sections as indicated in the screenshot:

1. **The Header Section**: starts at (0px, 0px) and has a dimension of 900px x 264px (width x height). This section consists of a logo (logo.gif) stored in a folder called images, which is in the same directory as this places.html page. This section also has the slogan “Welcome to Perth” placed on top of the logo image. The slogan text is using a fantasy font.

2. **The Navigation Section**: has a dimension of 150px x 300px (width x height). This section contains a group of links, which each links to home.html, things.html, places.html (this page), getAround.html and contact.html, respectively. The two links (King’s Park and Margaret River) under Places to Go are linking to the relevant internal sections of this page. You will need to work out the starting position of this section based on the size of the logo.

3. **The Content Section**: has a width of 750px, and a variable height. This section contains two topics, the topic headings are in H1 format. The first topic on Kings Park contains paragraph, the second topic on Margaret River Region contains a form that is formatted using a table. The options for the selection box of the form are WA, Other Australian States and Overseas. The form data is to be processed by tour.php in the same folder as this file on the sever side. Make sure the form data is not appended to the URL when sent.
Note that all the coordinates given are in the \((x, y)\) format, that is, \(x\) pixels to the right from the left edge of the browser content area, and \(y\) pixels down from the top edge of the browser content area.

Note that all hyperlinks on the page have no underlines (hint: the style rule to remove underline is \{text-decoration: none\}), a link has yellow colour on a blue background, a visited link has gray colour on black background, and a link with mouse hovering on it has a yellow colour on a black background.

Note also the left border of the content area and the borders of the table used for collecting form data.

**ANSWER THIS PLACES TO GO WEB PAGE CREATION QUESTION HERE**

```html
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
 "http://www.w3.org/TR/1999/REC-html401-19991224/loose.dtd">
```
ANSWER THIS PLACES TO GO WEB PAGE CREATION QUESTION HERE (CONT.)

(20 marks)
Spare Page for Extra Work
Spare Page for Extra Work

End of Exam Questions

PTO for Quick Reference Cards
# HTML and XHTML Quick Reference Charts: Head and Body Markup

## Element

<table>
<thead>
<tr>
<th>Element</th>
<th>Description and Browser Support</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;html&gt;</code></td>
<td>Bounded of HTML or XHTML document</td>
</tr>
<tr>
<td><code>&lt;head&gt;</code></td>
<td>Document head (document meta data)</td>
</tr>
<tr>
<td><code>&lt;title&gt;</code></td>
<td>Document title (contains text only, no markup)</td>
</tr>
<tr>
<td><code>&lt;body&gt;</code></td>
<td>Document body (contains what gets displayed)</td>
</tr>
<tr>
<td><code>&lt;address&gt;</code></td>
<td>Address information</td>
</tr>
<tr>
<td><code>&lt;pre&gt;</code></td>
<td>Preformatted text (preserve white space characters)</td>
</tr>
<tr>
<td><code>&lt;form&gt;</code></td>
<td>Fill-in form</td>
</tr>
<tr>
<td><code>&lt;button&gt;</code></td>
<td>Create encrypted key to identify user [NN3+, OP3.6+]</td>
</tr>
<tr>
<td><code>&lt;fieldset&gt;</code></td>
<td>Advanced input button [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;legend&gt;</code></td>
<td>Grouped set of input elements [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;label&gt;</code></td>
<td>Label for a fieldset [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;input&gt;</code></td>
<td>Label for an input [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;select&gt;</code></td>
<td>General input element (text, checkboxes, etc.)</td>
</tr>
<tr>
<td><code>&lt;optgroup&gt;</code></td>
<td>Selectable list of items</td>
</tr>
<tr>
<td><code>&lt;option&gt;</code></td>
<td>Group of option elements in a selectable list [No support]</td>
</tr>
<tr>
<td><code>&lt;textarea&gt;</code></td>
<td>Item in list (inside select or optgroup)</td>
</tr>
<tr>
<td><code>&lt;dt&gt;</code></td>
<td>Multi-line text input area</td>
</tr>
<tr>
<td><code>&lt;dd&gt;</code></td>
<td>Glossary or description list</td>
</tr>
<tr>
<td><code>&lt;col&gt;</code></td>
<td>Term in list</td>
</tr>
<tr>
<td><code>&lt;ol&gt;</code></td>
<td>Term description</td>
</tr>
<tr>
<td><code>&lt;ul&gt;</code></td>
<td>Ordered list (., numbered)</td>
</tr>
<tr>
<td><code>&lt;dir&gt;</code></td>
<td>List item</td>
</tr>
<tr>
<td><code>&lt;dl&gt;</code></td>
<td>Unordered list (e.g., bulleted)</td>
</tr>
<tr>
<td><code>&lt;menu&gt;</code></td>
<td>List item</td>
</tr>
<tr>
<td><code>&lt;table&gt;</code></td>
<td>Directory-style listing (use ul instead)</td>
</tr>
<tr>
<td><code>&lt;caption&gt;</code></td>
<td>List item</td>
</tr>
<tr>
<td><code>&lt;th&gt;</code></td>
<td>Menu list (use ul instead)</td>
</tr>
<tr>
<td><code>&lt;colgroup&gt;</code></td>
<td>List item</td>
</tr>
<tr>
<td><code>&lt;thead&gt;</code></td>
<td>Table caption</td>
</tr>
<tr>
<td><code>&lt;tbody&gt;</code></td>
<td>Define groups of columns [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;tr&gt;</code></td>
<td>Set column properties [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;td&gt;</code></td>
<td>Group rows making up table body [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;thead&gt;</code></td>
<td>Group rows making up table footer [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;tbody&gt;</code></td>
<td>Group rows making up table header [IE4+, NN6]</td>
</tr>
<tr>
<td><code>&lt;tr&gt;</code></td>
<td>Table row (preferably inside thead, tbody or tfoot)</td>
</tr>
<tr>
<td><code>&lt;td&gt;</code></td>
<td>Table content -- data</td>
</tr>
<tr>
<td><code>&lt;table&gt;</code></td>
<td>Table content -- header (row or column description)</td>
</tr>
<tr>
<td><code>&lt;th&gt;</code></td>
<td>Multi-column text [NN4 only]</td>
</tr>
<tr>
<td><code>&lt;thead&gt;</code></td>
<td>Frameset document (replaces body element)</td>
</tr>
<tr>
<td><code>&lt;tfoot&gt;</code></td>
<td>Defines frame content (using a URL)</td>
</tr>
<tr>
<td><code>&lt;tbody&gt;</code></td>
<td>Subdivides a frame into additional frames</td>
</tr>
<tr>
<td><code>&lt;tr&gt;</code></td>
<td>Alternate content (if frames not supported)</td>
</tr>
</tbody>
</table>

## Key to this Figure

### HTML Version

- `<tag>` Standard elements
- `<tag>` Netscape/Microsoft extensions -- avoid if possible
- `<tag>` Deprecated -- avoid if possible

### Element Tag Rules

- `<tag>` Element has content, and the end tag is mandatory.
- `<tag>` Element is empty.

### Element Content Rules

- Right hand elements must be inside indicated left-hand element.
- Left hand element can contain the indicated right-hand elements.

### Frameset is an alternative to the body element

### Browser Support Descriptions

Elements are supported by essentially all current browsers unless a list of browsers is given in square brackets after the description. If such a list is present, then only the listed browsers support the element. The following 2-letter notation is used to describe these browsers:

- `IE`: Internet Explorer
- `NN`: Netscape Navigator
- `OP`: Opera
- `LY`: Lynx
- `WT`: WebTV

... followed by a browser version number. This may then be followed by a `+` sign if the element is also supported by subsequent versions of that browser.

For example:

- IE4+ Supported by Internet Explorer 4 and greater.
- NN4 Supported by Navigator 4, but not by Navigator 6.
# HTML and XHTML Quick Reference Charts: Inline Markup

## Inline (Inclusion) Elements
- `<audio>`  Display audio chart [WT only]
- `<applet>` Inline program (applet)
- `<param>` Parameter for `applet`
- `<img>` Inline image
- `<iframe>` Inline frame [IE3+, NN6]
- `<embed>` Embed arbitrary data
- `<noembed>` Markup alternative to `embed` [IE4+, NN4+]
- `<object>` Markup alternative to `script` [IE4+, NN4+]
- `<param>` Parameter for `object`

## Inline (Character-like) Elements
- `<br>` Forced line break
- `<spacer>` Horizontal and/or vertical spacer [NN4+ only]
- `<wbr>` Word break

## Inline (Meta-Information) Elements
- `<b` Set base font properties
- `<bgsound>` Background audio [IE3+ only]
- `<map>` Client-side imagemap
- `<area>` Region of map
- `<script>` Script program for browser
- `<server>` Script program to run on server [Netscape servers only]

## Netscape Layer Elements [NN4 only]
- `<layer>` Overlay presentation layer
- `<layer>` Overlay layer (relative positioning)
- `<noLayer>` Alternative for non-layer browsers

## Inline - Hypertext Anchors
- `<a>` Hypertext anchor

## Inline (Physical Markup) Elements
- `<b>` Bold face
- `<blackface>` Extra bold [WT only]
- `<bdo>` Bi-directional override [IE4+, NN6]
- `<big>` Bigger
- `<blink>` Blinking [NN1+ only]
- `<font>` Change font properties
- `<i>` Italics
- `<mark>` Scrolling text [IE3+ only]
- `<nobr>` No line break
- `<strike>` [Not by Opera]
- `<small>` Smaller
- `<span>` Inline text block [IE3+, NN4+, OP3.6+]
- `<strong>` Strongly emphasized
- `<sup>` Superscript [NN3+, IE3+, OP3.6, WT]
- `<superscript>` Superscript [NN3+, IE3+, OP3.6, WT]
- `<tt>` Fixed-width/monospace
- `<u>` Underline

## Inline (Logical) Elements
- `<abbr>` Abbreviation [NN6, OP4]
- `<acronym>` Acronym [IE4+, NN6, OP4]
- `<cite>` Citation
- `<code>` Typed code
- `<dfn>` Definition
- `<em>` Emphasized
- `<kbd>` Keyboard input
- `<q>` Inline quotation [IE4+, NN6, OP4]
- `<samp>` Sample text
- `<strong>` Strongly emphasized
- `<var>` A variable

## Special Markup: Inserted/Deleted Content
- `<del>` Deleted content [IE4+, NN6, OP4]
- `<ins>` Inserted content [IE4+, NN6, OP4]

**NOTE on Lynx Browser Support.**
Lynx is a text-mode browser that does not render inline images, and that can generally only display text using one font (with, in some cases, reverse video, boldface and underlining). Thus, many inline text-formatting styles are not possible with Lynx. If you want pages to work with Lynx, you want to avoid inclusion, character-like (except `br`) and special markup elements, and restrict yourself to only simple physical/logical elements (e.g., `em`, `strong`). You will also want to avoid table elements, and framesets.

## Simplified Element Content Rules for Inline Markup

### Inclusion Elements
If they can take content (many, like `img`, cannot), they take content appropriate to their context (i.e., text or inline markup if they are themselves inline, block markup if they are a block).

### Character-like & Meta-Information
Generally allowed inside any non-empty block or inline element that can appear inside the `body` (see also preceding page).

### Netscape Layer Elements
Can contain almost any inline element or any element that can be placed inside the `body` element (see preceding page) — they cannot appear in the document `head`.

### Physical/Logical Text Markup
Can contain text or any of the other inline or special markup elements described above.

### Hypertext Anchors
Like physical or logical inline text markup, but cannot contain additional anchor elements.

### Special Markup
Can contain text or almost any block or inline element, or any element that can be placed inside the `body` (see front cover).

Source of this HTML/XHTML Quick Reference card:
http://www.utoronto.ca/ian/books/extras/
### CSS Quick Reference

#### Box Model

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Default</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>margin-top, margin-right, margin-bottom, margin-left</td>
<td><code>&lt;length&gt;</code></td>
<td>0</td>
<td>§ 8.3</td>
</tr>
<tr>
<td>margin</td>
<td><code>&lt;length&gt;</code></td>
<td>not defined for shorthand properties</td>
<td>§ 8.3</td>
</tr>
<tr>
<td>padding-top, padding-right, padding-bottom, padding-left</td>
<td><code>&lt;length&gt;</code></td>
<td>0</td>
<td>§ 8.4</td>
</tr>
<tr>
<td>padding</td>
<td><code>&lt;length&gt;</code></td>
<td>not defined for shorthand properties</td>
<td>§ 8.4</td>
</tr>
<tr>
<td>border-top-width, border-right-width, border-bottom-width, border-left-width</td>
<td>thin, medium, thick, <code>&lt;length&gt;</code></td>
<td>inherit</td>
<td>§ 8.5.1</td>
</tr>
<tr>
<td>border-width</td>
<td>thin, medium, thick, <code>&lt;length&gt;</code></td>
<td>inherit</td>
<td>§ 8.5.1</td>
</tr>
<tr>
<td>border-top-color, border-right-color, border-bottom-color, border-left-color</td>
<td><code>&lt;color&gt;</code></td>
<td>the value of the 'color' property</td>
<td>§ 8.5.2</td>
</tr>
<tr>
<td>border-color</td>
<td><code>&lt;color&gt;</code></td>
<td>transparent</td>
<td>§ 8.5.2</td>
</tr>
<tr>
<td>border-top-style, border-right-style, border-bottom-style, border-left-style</td>
<td>none, hidden, dotted, dashed, solid, double, groove, ridge, inset, outset</td>
<td>inherit</td>
<td>§ 8.5.3</td>
</tr>
<tr>
<td>border-style</td>
<td>none, hidden, dotted, dashed, solid, double, groove, ridge, inset, outset</td>
<td>inherit</td>
<td>§ 8.5.3</td>
</tr>
<tr>
<td>border-top, border-right, border-bottom, border-left</td>
<td><code>&lt;border-top-width&gt;</code></td>
<td>inherit</td>
<td>§ 8.5.4</td>
</tr>
<tr>
<td>border</td>
<td><code>&lt;border-width&gt;</code></td>
<td>inherit</td>
<td>§ 8.5.4</td>
</tr>
</tbody>
</table>
# Visual Formatting Model

**display**

Value: `inline` | `block` | `list-item` | `run-in` | `compact` | `marker` | `table` | `inline-table` | `table-row-group` | `table-header-group` | `table-footer-group` | `table-row` | `table-column-group` | `table-column` | `table-cell` | `table-caption` | `none` | `inherit`

**position**

Value: `static` | `relative` | `absolute` | `fixed` | `inherit`

**top, right, bottom, left**

Value: `<length>` | `<percentage>` | `auto` | `inherit`

**float**

Value: `left` | `right` | `none` | `inherit`

**clear**

Value: `none` | `left` | `right` | `both` | `inherit`

**z-index**

Value: `auto` | `<integer>` | `inherit`

**direction**

Value: `ltr` | `rtl` | `inherit`

**unicode-bidi**

Value: `normal` | `embed` | `bidi-override` | `inherit`

## Visual Formatting Model Details

### width

Value: `<length>` | `<percentage>` | `auto` | `inherit`

### height

Value: `<length>` | `<percentage>` | `auto` | `inherit`

### min-width

Value: `<length>` | `<percentage>` | `inherit`

Default: UA dependent

### max-width

Value: `<length>` | `<percentage>` | `none` | `inherit`

### min-height

Value: `<length>` | `<percentage>` | `inherit`

Default: 0

### max-height

Value: `<length>` | `<percentage>` | `none` | `inherit`

### line-height

Value: `normal` | `<number>` | `<length>` | `<percentage>` | `inherit`

### vertical-align

Value: `baseline` | `sub` | `super` | `top` | `text-top` | `middle` | `bottom` | `text-bottom` | `<percentage>` | `<length>` | `inherit`
### VISUAL EFFECTS

**overflow**

- **Value:** `visible` | `hidden` | `scroll` | `auto` | `inherit`  

**clip**

- **Value:** `rect(<top>)` | `rect(<right>)` | `rect(<bottom>)` | `rect(<left>)` | `auto` | `inherit`  

**visibility**

- **Value:** `visible` | `hidden` | `collapse` | `inherit`  

### GENERATED CONTENT, AUTOMATIC NUMBERING, AND LISTS

**content**

- **Value:** `[ <string> | <uri> | <counter> | attr(X) | open-quote | close-quote | no-open-quote | no-close-quote ]+ | inherit`  

- **Default:** `empty string`

**quotes**

- **Value:** `[<string> <string>]+ | none | inherit`  

- **Default:** `depends on user agent`

**counter-reset, counter-increment**

- **Value:** `[<identifier> <integer>?]+ | none | inherit`  

**marker-offset**

- **Value:** `<length> | auto | inherit`  

**list-style-type**

- **Value:** `disc` | `circle` | `square` | `decimal` | `decimal-leading-zero` | `lower-roman` | `upper-roman` | `lower-greek` | `lower-alpha` | `lower-latin` | `upper-alpha` | `upper-latin` | `hebrew` | `arabic` | `georgian` | `cjk-ideographic` | `hiragana` | `katakana` | `hiragana-iroha` | `katakana-iroha` | `none` | `inherit`  

**list-style-image**

- **Value:** `<uri> | none | inherit`  

**list-style-position**

- **Value:** `inside` | `outside` | `inherit`  

**list-style**

- **Value:** `[<list-style-type>] | [<list-style-position>] | [<list-style-image>] | inherit`  

- **Default:** `not defined for shorthand`
### PAGED MEDIA

**Size**

*Value:* `<length>{1,2} | auto | portrait | landscape | inherit`

**marks**

*Value:* `[crop | cross] | none | inherit`

**page-break-before, page-break-after**

*Value:* `auto | always | avoid | left | right | inherit`

**page-break-inside**

*Value:* `avoid | auto | inherit`

**page**

*Value:* `<identifier> | auto`

**orphans, widows**

*Value:* `<integer> | inherit`

*Default:* 2

### COLORS AND BACKGROUND COLORS

**color**

*Value:* `<color> | inherit`

*Default:* depends on user agent

**background-color**

*Value:* `<color> | transparent | inherit`

**background-repeat**

*Value:* `repeat | repeat-x | repeat-y | no-repeat | inherit`

**background-position**

*Value:* `[[<percentage> | <length>{1,2}] | [[top | center | bottom] | [[left | center | right]]] | inherit`

*Default:* 0% 0%

**background**

*Value:* `[<background-color> | <background-image> | <background-repeat> | <background-attachment> | <background-position>] | inherit`

*Default:* not defined for shorthand properties
# Fonts

- **font-family**: 15.2.2
  - Value: `[[<family-name> | (serif | sans-serif | cursive | fantasy | monospace)],]* [[<family-name> | (serif | sans-serif | cursive | fantasy | monospace)] | inherit]
  - Default: depends on user agent

- **font-style**: 15.2.3
  - Value: `normal | italic | oblique | inherit`

- **font-variant**: 15.2.3
  - Value: `normal | small-caps | inherit`

- **font-weight**: 15.2.3
  - Value: `normal | bold | bolder | lighter | 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 | inherit`

- **font-stretch**: 15.2.3
  - Value: `normal | wider | narrower | ultra-condensed | extra-condensed | condensed | semi-condensed | semi-expanded | expanded | extra-expanded | ultra-expanded | inherit`

- **font-size**: 15.2.4
  - Value: `[xx-small | x-small | small | medium | large | x-large | xx-large] | [larger | smaller] | <length> | <percentage> | inherit`

- **font-size-adjust**: 15.2.4
  - Value: `<number> | none | inherit`

- **Font**: 15.2.5
  - Value: `[[<font-style> | | <font-variant> | | <font-weight>]]? <font-size> [/ <line-height>]? <font-family> | | caption | icon | menu | message-box | small-caption | status-bar | inherit`
  - Default: see individual properties

# User Interface

- **cursor**: 18.1
  - Value: `[uri],[auto | crosshair | default | pointer | move | e-resize | ne-resize | nw-resize | n-resize | se-resize | sw-resize | s-resize | w-resize | text | wait | help] | inherit`

- **outline**: 18.4
  - Value: `<outline-color> | | <outline-style> | | <outline-width> | | inherit`
  - Default: see individual properties

- **outline-width**: 18.4
  - Value: `<border-width> | inherit`
  - Default: medium

- **outline-style**: 18.4
  - Value: `<border-style> | inherit`
  - Default: none

- **outline-color**: 18.4
  - Value: `<color> | invert | inherit`
## UNITS

<table>
<thead>
<tr>
<th>Relative Length Units</th>
<th>4.3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>em, ex, px</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Absolute Length Units</th>
<th>4.3.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>in, cm, mm, pt, pc</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Angle</th>
<th>4.3.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>deg, grad, rad</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Times</th>
<th>4.3.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>ms, s</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequencies</th>
<th>4.3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hz, kHz</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Color Units</th>
<th>4.3.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>#000, #ff0000, rgb(255,0,0), rgb(100%, 0%, 0%)</td>
<td></td>
</tr>
</tbody>
</table>

## PSEUDO CLASSES, PSEUDO ELEMENTS AND MEDIA TYPES

### Anchor Pseudo Classes

- a:link /* unvisited link */
- a:visited /* visited links */
- a:active /* active links */

### Typographic Pseudo Elements

- p:first-line /* first line of p element */
- p:first-letter /* first letter of p element */
- p:before /* content before p in document tree */
- p:after /* content after p in document tree */
- @page:left /* left page margin properties */
- @page:right /* right page margin properties */

## CSS SAMPLES

```
: h1 { font-family: Times; } /* all h1 elements */
: h1, h2 { font-width: bold; } /* all h1 and h2 elements */
: em { color: red; } /* em elements within h1 elements/.
: .para { font-family: Arial; } /* all elements with class ‘para’ */
: #p4 { letter-spacing: 12px; } /* the element with id ‘p4’ */
: @page:left { margin: 2cm } /* margin for media type ‘page’*/
: @import ”list.css”; /* import from file ‘list.css’ */
```

## NOTATION

- a b a followed by b
- [a b] Grouping of a and b
- a | b a or b
- a | | b either a or b or both in any order
- a? a is optional
- a* zero or more occurrences of a
- a+ one or more occurrences of a
- a{1, 4} a occurs at least once and at most 4 times