# Chapter 1 – Basics

## Doctype

* It instructs the browser which type of document is ours. Eg. HTML4, HTML5, XHTML etc.
* It is case-insensitive.
* If the doctype is present, the browser will render the page in standard mode.
* If absent, the browser will render the page in quirks mode.
* Eg. <!DOCTYPE html> - is for standard HTML5 page.
* Quirks mode is browser specific mode, meaning it will be different for all the browsers.
* Doctype also ensures compatibility across browsers.

## Head section tags

* <title>, <meta>, <link>, <script>, <noscript>, <style>, <base> etc..
* <head> contains machine-readable information (metadata) and not human readable information.
* Minimum tags to be present in <head> are:
* <meta charset="utf-8">
* <meta name="viewport" content="width=device-width, initial-scale=1">
* *<!--*
* *The above 2 meta tags \*must\* come first in the <head>*
* *to consistently ensure proper document rendering.*
* *Any other head element should come \*after\* these tags.*
* *-->*
* <title>Page Title</title>

## Body section tags

* <a>, <div>, <p>, <header>, <nav>, <h1> to <h6>, <image> etc..
* It contains the main content of the page.
* There can be only one body element in the document.
* Attributes of the tags are the properties written within the tag.
* An empty tag is the tag which does not have a closing tag. Eg. <link rel=”stylesheet” href=”/styles.css” type=”text/css”/>
* Inline elements are those elements which only occupy the space bounded by the tag.
* Block level elements are those which occupy entire width of the browser. They always start with a line break.

## How browsers read HTML

* Browsers store the HTML page in DOM tree format in its memory.
* DOM tree is an object-oriented representation of the document and it is stored as nodes and objects.
* Each HTML tag is an object in DOM.
* DOM tree can be modified using JavaScript.

## Ways to include CSS

* Internal CSS – which is written using the <style> tag
* External CSS – which is written in a separate file and linked using <link> tag in head section.
* Inline CSS – which is written within the tag using “style” attribute.

## Where should JS be included and why?

* JS should be placed at bottom of the document.
* Browser will load and parse the script before proceeding with rendering the page. User will be kept on waiting.
* We can also use async and differ to load the script asynchronously without blocking the browser.

## Why is external CSS better than internal?

* Readability
* Reusability
* Size of the page increases in case of internal CSS
* Caching – Browsers cache static resources such as CSS, JS, images etc..

## Online practice editors

* JSFiddle - <http://jsfiddle.net/>
* Codepen - <https://codepen.io/>
* JSBin - <https://jsbin.com/>

## Editors to write code

* Atom
* VS Code
* Sublime
* Notepad++

## Developer’s Toolbar

* Elements – Displays the HTML of the page
* Console – Displays any errors and log messages. Allows us to write JavaScript also.
* Sources – All the static files present in the production environment. It is used to debug JavaScript.
* Network – Time taken to load each resource. It shows the request and response time for each resource. This panel is important for site optimization.

## Question and Answers

1. Can we use <style> tag inside of <body>?
2. We can include <style> tag inside <head> or <body>. But it is recommended to include the <style> tag inside <head> for organizational purposes. Its better to separate out presentation and content of your document. The best way would be to include an external stylesheet.
3. In Trello, after we modify, delete or add any card, the information is persisted how?
4. Trello might be making AJAX (Asynchronous JavaScript) requests to save the changes. These kind of requests do not block the users and refreshes only a particular section of the page.