Frontend Web Development

Week 1 (Part 1)

Course Overview

Installing software

- Visual studio code
- Node js
- Git
- Account with Github

Introduction to HTML

- How the internet works
- Understanding Basic HTML tags and attributes
- (Inline and Block-Level Elements)
- Building a basic layout of a webpage
- Understanding Semantic HTML/HTML5
- Understanding File Paths and how the browser parses HTML/DOM Tree

Installing Software

Click on each of the links below to install the software or create accounts where necessary.

Visual studio code

Node js

Git

Account with Github

Command line

Command Line Interface

The command line, also known as the command prompt or terminal, is a text-based interface used to interact with a computer's operating system. Instead of using graphical elements like windows and icons, the command line allows users to enter commands as text. By typing specific commands and parameters, users can perform various tasks, such as navigating through directories, managing files, executing programs, and configuring system settings. The command line provides a powerful and efficient way to control and interact with a computer, particularly for tasks that require automation, scripting, or advanced system management.

Accessing the command line on Windows

1. Press the Windows key on your keyboard or click on the "Start" button in the bottom left corner of the screen.
2. Type "Command Prompt" or "cmd" into the search bar and press Enter. This will open the Command Prompt application.
3. Alternatively, you can use the keyboard shortcut by pressing the Windows key + R to open the "Run" dialog box. Then, type "cmd" and press Enter.

Accessing the command line on Mac

1. Open the "Finder" application by clicking on the smiley face icon in the dock.
2. Navigate to the "Applications" folder.
3. Open the "Utilities" folder.
4. Look for the "Terminal" application and double-click on it to open.
5. You can also use Spotlight search by pressing Command + Spacebar, typing "Terminal," and selecting the application from the search results.

Interacting with Command Line (CMD)

Once you have opened the respective command line interface (Command Prompt on Windows or Terminal on Mac), you can start entering commands and interacting with the operating system through the command line interface.

Common CLI commands

Commands	meaning
cd desktop	Changes directory to desktop
mkdir frontend	Creates a directory called frontend
cd ..	Moves back to the previous directory
node -v	Shows you the version of your node
npm -v	Shows the version of node package modules installed
dir	Shows the list of files and directories within a folder
ls	On git and mac terminal, this shows list of directories and files
Touch index.html	This creates a file called index.html on the current directory

Getting started with Visual studio Code

Visual Studio Code is a code editor redefined and optimized for building and debugging modern web and cloud applications.

From your command line:

Navigate to desktop - cd desktop

Navigate to frontend folder (already created) - cd frontend

Initialize an empty git repository called wk1 - git init wk1

Navigate to wk1 - cd wk1

Open with vscode - code .

This last command will trigger VSCode to open wk1 folder in vscode.

Important VSC extensions

On the extensions panel of VSC, install the following extensions:

Live server

HTML Preview by

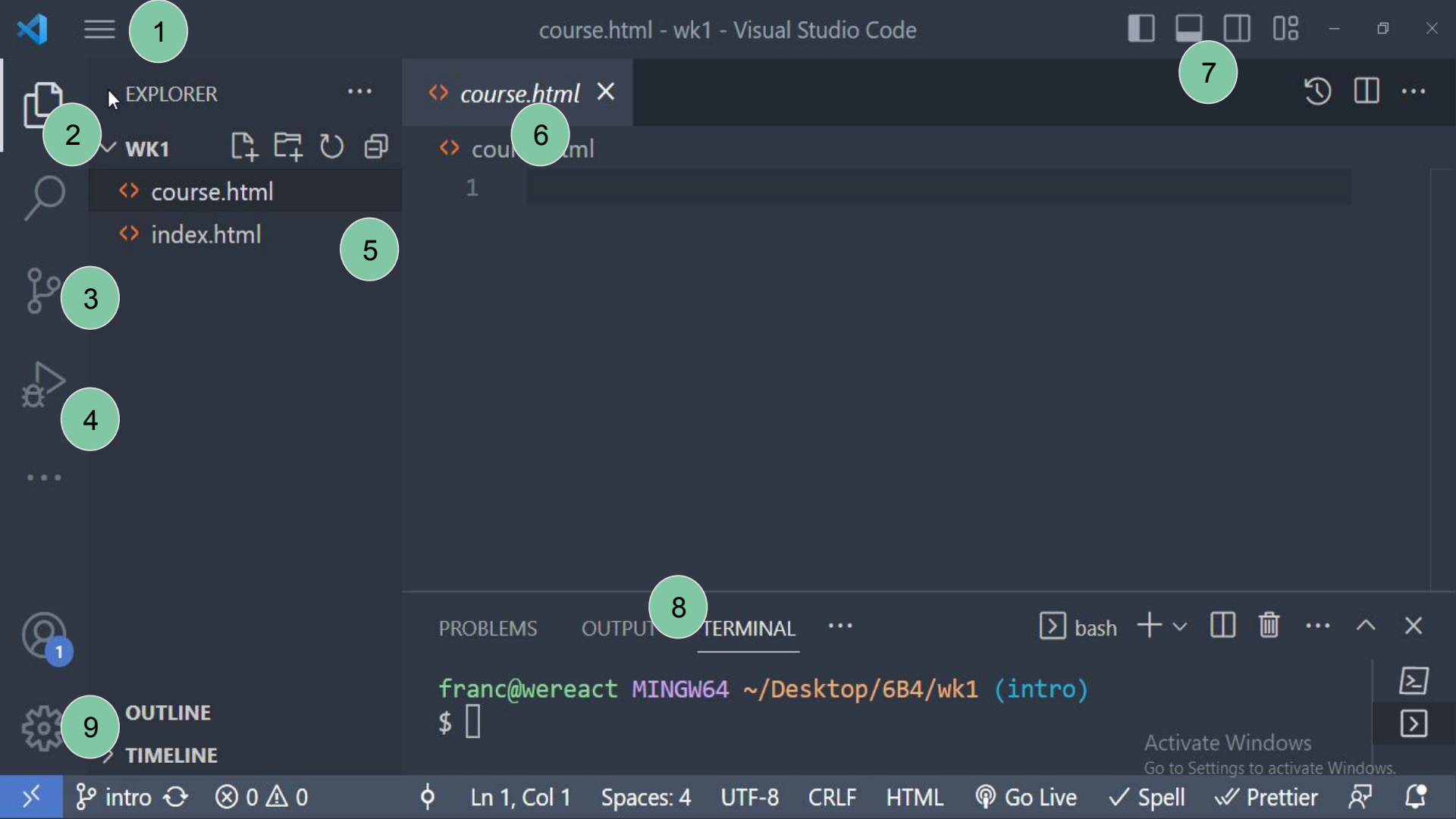
Prettier

Tailwindcss intellisense

CLI on VSC

Your VSC has command line interface, that enables you to perform some cli commands right from your vsc

1. Switch to either powershell or git bash
2. Code entry panel
3. Close or switch interface
4. Unresolved source


1
course.html - wk1 - Visual Studio Code
EXPLORER
2
WK1
course.html
index.html
5
3
4
course.html
6
1
7
PROBLEMS
OUTPUT
TERMINAL
8
bash
franc@wereact MINGW64 ~/Desktop/6B4/wk1 (intro)
$
OUTLINE
TIMELINE
9
Activate Windows
Go to Settings to activate Windows.
intro
0 0
Ln 1, Col 1
Spaces: 4
UTF-8
CRLF
HTML
Go Live
Spell
Prettier

Visual Studio Code

1. Menu- shows the file, edit, selection tabs
2. File Explorer- shows files in the active directories
3. Source control- gives options to add, commit and push to a git repository
4. Extension- Extensions like live server, prettier, auto rename tab can be installed from this panel.
5. File menu- The files within the active directory can be seen here
6. Active file window- editable part where codes are entered within a file
7. Toggle panel- Toggle the appearance of your window with the options available.
8. Terminal- The command line commands are performed from this panel
9. Settings - Make changes like Theme and other preferences from here.

HTML - Introduction

HTML (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/behavior (JavaScript).

How does the internet work?

The internet is like a massive network that connects computers and devices from all around the world. It allows us to access and share information easily.

Throughout this process, there are various protocols and technologies at work, such as TCP/IP (Transmission Control Protocol/Internet Protocol) for packet transmission, DNS (Domain Name System) for converting domain names into IP addresses, and HTTP/HTTPS (Hypertext Transfer Protocol/Secure) for requesting and transferring web content securely.

Understanding Basic HTML tags and attributes

An HTML element is set off from other text in a document by "tags", which consist of the element name surrounded by "<" and ">". The name of an element inside a tag is case-insensitive. That is, it can be written in uppercase, lowercase, or a mixture. But it is much better to represent elements in lowercases.

HTML tags are used to define the structure and content of a webpage.

Tags are enclosed in angle brackets (<>) and come in pairs: an opening tag and a closing tag.

Example: , <section></section>

Examples of HTML tags

HTML Tag	Description
`<h1>` to `<h6>`	Headings of different sizes.
`<p>`	Paragraph
`<a>`	Anchor tag for creating hyperlinks.
`<img>`	Image tag.
`<ul>`	Unordered list.
`<li>`	List item.
`<div>`	Division or container.
`<span>`	Inline container for a small piece of content.

Understanding Basic HTML attributes

Attributes provide additional information or modify the behavior of HTML elements.

Attributes are added to the opening tag of an HTML element.

Attributes consist of a name and a value, separated by an equal sign (=) and enclosed in double quotes (" ").

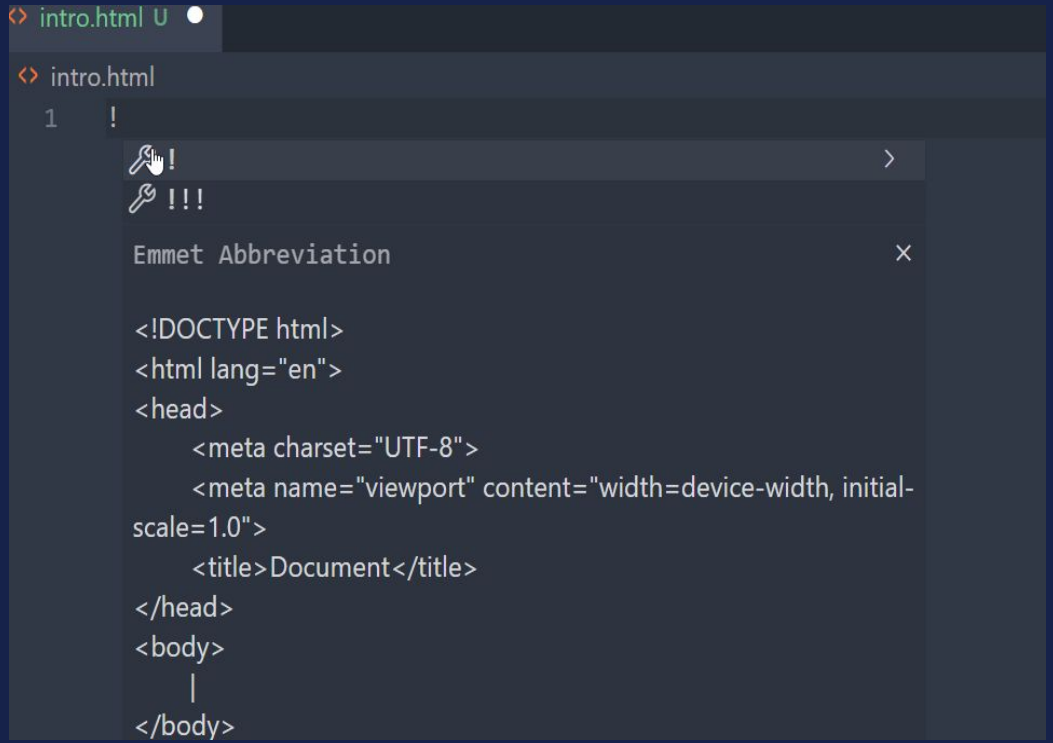
Examples of HTML attributes

HTML Attribute	Description
class	Specifies one or more CSS classes to apply to an element.
id	Specifies a unique identifier for an element.
src	Specifies the source URL of an image or media file.
href	Specifies the URL or destination of a hyperlink.
alt	Provides alternative text for images.
style	Inline CSS styles to apply directly to an element.
title	Adds a tooltip or additional information when hovering over an element.

Starting with html boilerplate

A boilerplate in HTML is a template you will add at the start of your project

To start this use an exclamation mark “!”. That is the emmet abbreviation to trigger this boilerplate.



1. DOCTYPE - means html5 elements are included.
2. Html element - This is the root element with an attribute ‘lang’ having a default value of ‘en’ for english. This helps search engine like google for translation.
3. Meta - element very useful for SEO
4. Title- The title of our document. Has a default string of Document. Should be changed to match the h1 element on the body. Very important for search engine optimization.
5. Body element - most of our elements go in here.
6. Head element - handles other elements like link, meta.

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>

</body>
</html>
```

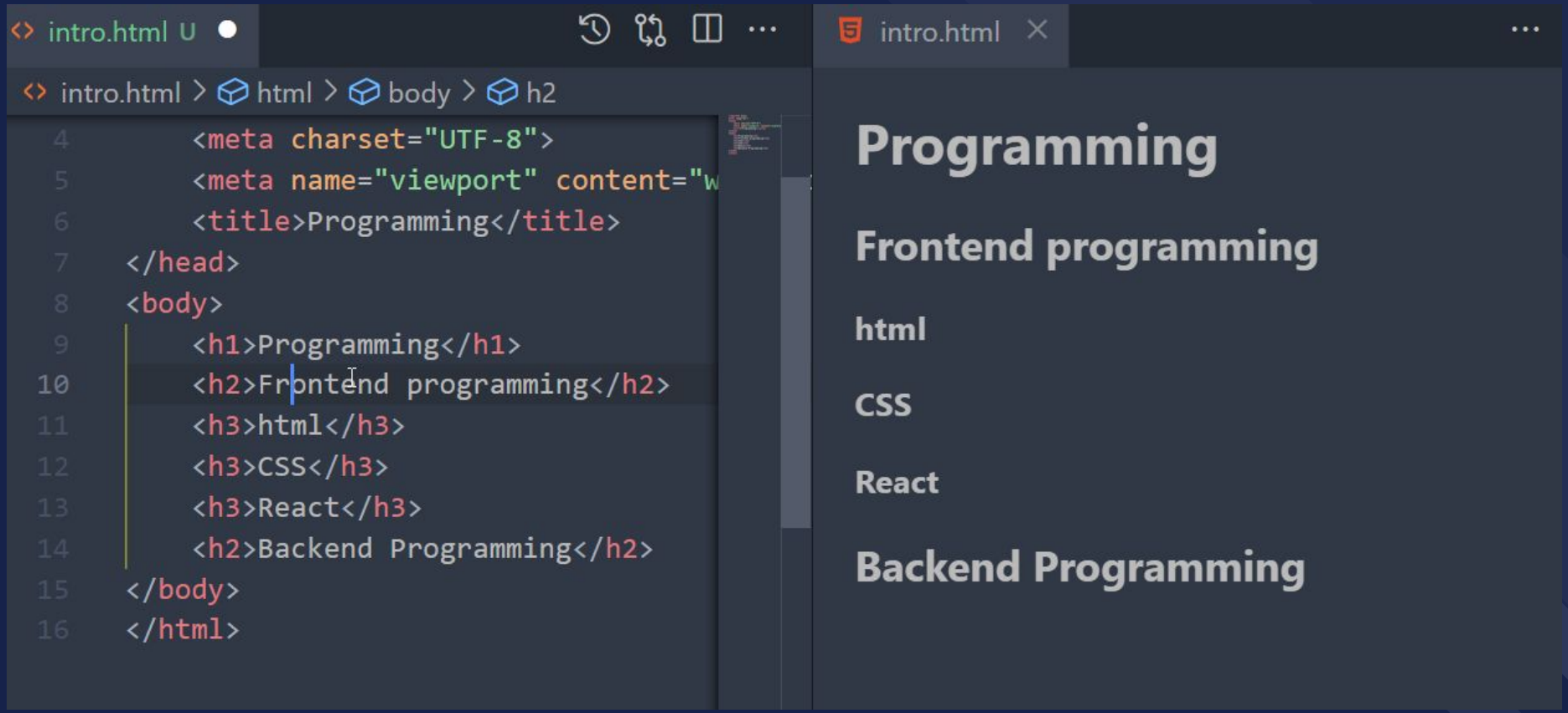
Heading elements

1. H1 - occurs once in a document, should be same as title element.
2. H2- subheading to a title element. Should appear within a section element. Can be multiple in a document.
3. H3- sub heading to a h2 element.

```
<body>
    <h1>Programming</h1>
    <h2>Frontend programming</h2>
    <h3>html</h3>
    <h3>CSS</h3>
    <h3>React</h3>
    <h2>Backend Programming</h2>
</body>
```

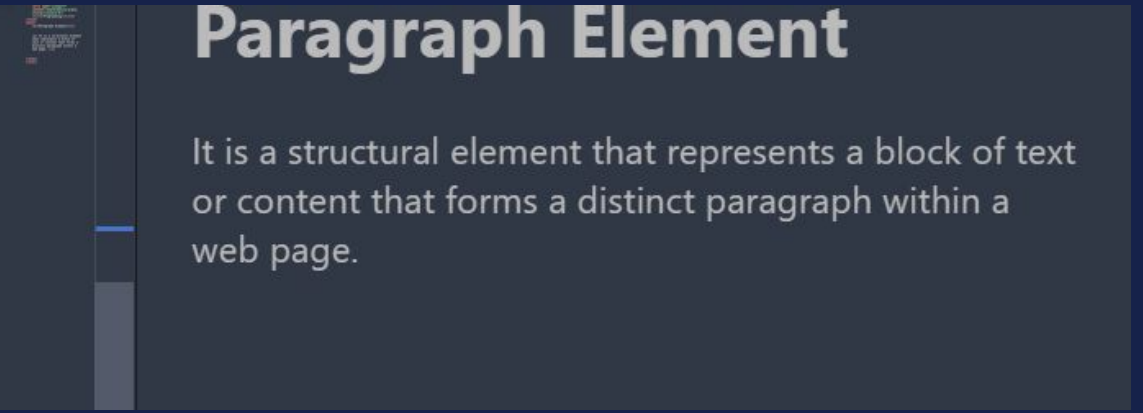
PREVIEWING DOCUMENT

If Liver server or HTML Preview is installed on VSC. Right click on the document and choose Preview HTML or Open with Live Server


intro.html U
intro.html > html > body > h2
<meta charset="UTF-8">
<meta name="viewport" content="w
<title>Programming</title>
</head>
<body>
<h1>Programming</h1>
<h2>Frontend programming</h2>
<h3>html</h3>
<h3>CSS</h3>
<h3>React</h3>
<h2>Backend Programming</h2>
</body>
</html>
intro.html
Programming
Frontend programming
html
CSS
React
Backend Programming

Paragraphing

```
<p> It is a structural element
that represents a block of
text or content that forms a
distinct paragraph within a
web page. </p>
```



Listing elements

uL -

This is an unordered kind of list.

List that do not have a particular order are grouped using ul. They have a child element as li for each list item .

oL -

This is an ordered kind of list.

List that have a particular order are grouped using ul. They have a child element as li for each list item .

OL can also have a type attribute to choose from roman figure, latin or alphabets.

Examples

```
<ul>
    <li>Orange</li>
    <li>Mango</li>
    <li>Apple</li>
</ul>

<h3>Creating a folder</h3>
<ol>
    <li>right click on the desktop</li>
    <li>select "New"</li>
    <li>select "New Folder"</li>
</ol>
```

- Orange
- Mango
- Apple

Creating a folder

1. right click on the desktop
2. select "New"
3. select "New Folder"

Descriptive List

Descriptive lists are used to describe a subject matter. It is used to create a list that pairs terms or labels with their corresponding descriptions or definitions.

intro.html > html > body > dl

```
    <dl>
        <dt>HTML</dt>
        <dd>Hypertext Markup Language - the standard
        markup language for creating web pages.</dd>

        <dt>CSS</dt>
        <dd>Cascading Style Sheets - a stylesheet
        language used for describing the presentation
        of a document written in HTML.</dd>

        <dt>JavaScript</dt>
        <dd>A high-level programming language used
        for adding interactivity and dynamic
        functionality to web pages.</dd>
    </dl>
```

HTML

Hypertext Markup Language - the standard markup language for creating web pages.

CSS

Cascading Style Sheets - a stylesheet language used for describing the presentation of a document written in HTML.

JavaScript

A high-level programming language used for adding interactivity and dynamic functionality to web pages.

Notice how the elements are indented on the output on the right

Anchor element

The anchor element is used to navigate within documents or one document.

It is represented as follows:

The href attribute takes the address of the linked file. It can take both local and remote address.

 Home : links the text ‘Home’ to an index document within the same directory

 Univelcity : links the text ‘Univelcity’ to a remote address of Univelcity website.

THANK YOU!