INFO1111: Computing 1A Professionalism

2022 Semester 1

Self-Learning Report

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Notes:

1. As you complete each section in this template remember to remove the instructions (i.e. the bits shown in italics).
2. The word counts indicated in this template are indicative only. You can include fewer or more words for each section.

1. Topic

Topic:

Html, CSS

Topic Overview:

Html, also known as hyper text markup language, is used to create web pages by describing how to structure objects in a webpage. The browser reads this to understand how to display the content on the page. HTML uses start and end tags to define elements on the page, e.g. headers, paragraphs, images and links and often divides the content into the "head" which lists important information such as browser encryption, links to fonts, css and js files, as well as the "body" which typically shows the content on the page.

CSS, known as cascading style sheets is used to style the elements on the html page. This is often used to format the layout of the webpage, text styling, backgrounds as well as positioning of elements. CSS can be internal, embedded within the html, or external which links the html file to a separate css file. Classes and ids are used to indicate which elements are to be styled in certain ways with the external format.

Both are used together to format the overall look and feel of the webpage.

Application to be developed

I will develop a portfolio profile html webpage with a general outline of personal profile, and past projects using key concepts of html. CSS will be used to style the texts, tags and layout.

2. Level 1 Submission

Learning Approach

I searched up youtube videos to understand how to create a personal portfolio webpage and read up on what HTML and CSS is by using the w3schools website. Looking at these tutorials helped me gain an understanding of what is possible with html and css before I started thinking of what I wanted to display. In the designing aspect, I was pointed to a design resource named "figma" to design my webpage, I used figma tutorials to learn how to create a mockup of the website. Once I was able to design this, I followed a youtube tutorial which helped transform my first webpage to a html and css document. Once my

first html and css page was created, I was able to use W3Schools and StackExchange to learn how to format my other pages.

Challenges and Difficulties

The most difficult thing was understanding how the CSS sheet connected to the html sheet. When I first followed the tutorial, I didn't understand how classes and ids were used to specify certain formats or layouts on the page. It was especially hard given I had to refresh the page every single time I made a change and really just used StackExchange and trial and error to get it right. After a bit more practice, I realised I could use the "Inspect" button on chrome to help me better understand where the changes were being applied and try applying it directly on the browser before coding it and refreshing the page. This was especially helpful in configuring layouts and positioning of different elements and lists. It took me quite a while to get the navigation bar right as I grouped all the elements, including the LinkedIn icon, inside an unordered list which meant I wasn't able to have the LinkedIn icon on the right side of the navigation bar. After trial and error, I realised that having it separate from the list would ensure it didn't follow the styling depicted for the unordered list element.

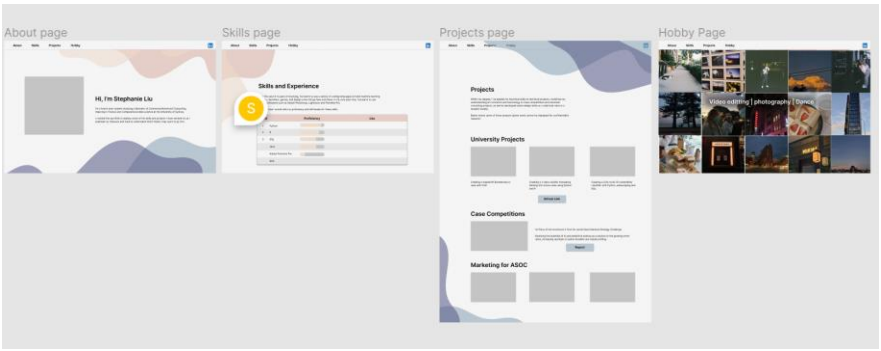
Learning Sources

Learning Source - What source did you use? (Note: Include source details such as links to websites, videos etc.).	*Contribution to Learning - How did the source contribute to your learning (i.e. what did you use the source for)?*
HTML Tutorial from W3Schools	Understanding what HTML and CSS generally is
Convert A Figma Design To A Real Website (HTML) - Part I	Understanding how to turn my figma design into HTML and CSS to create my about page
Figma 101: An introduction tutorial	How to use figma
https://stackexchange.com/	More specific styling issues: How to get a photogrid, how to link to different html pages, creating a html table

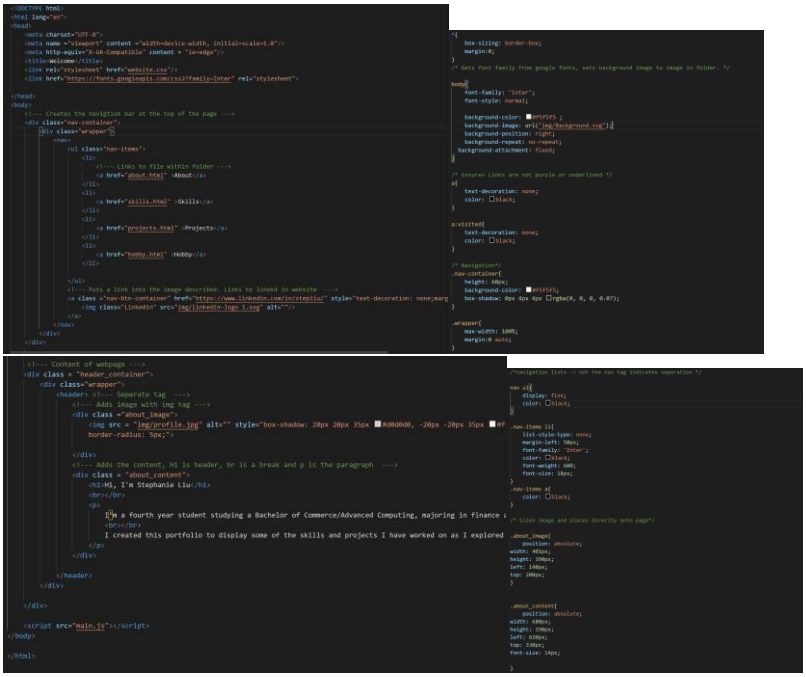
Application artifacts

I created a portfolio website with 4 separate html and CSS pages. Each of them have the same navigation bar at the top which links to the 4 different html file paths within the folder.

I first designed the web pages on Figma. I made the basic layouts and background images so these were easily exported and used later.



I then coded the about page first, creating the html of the page and then adding the CSS styling elements. I moved down the pages adding elements from top to bottom and left to right. The leftshows the annotated about.html code and the associated css file on the right.



After the first page was created, I reused the code for the navigation bar and changed things in the “header” tags to change the remaining content on the page. For

each subsection, I would create a new divider container, e.g. for the skills page separating the text and the table and for the projects page, separating each subheading.

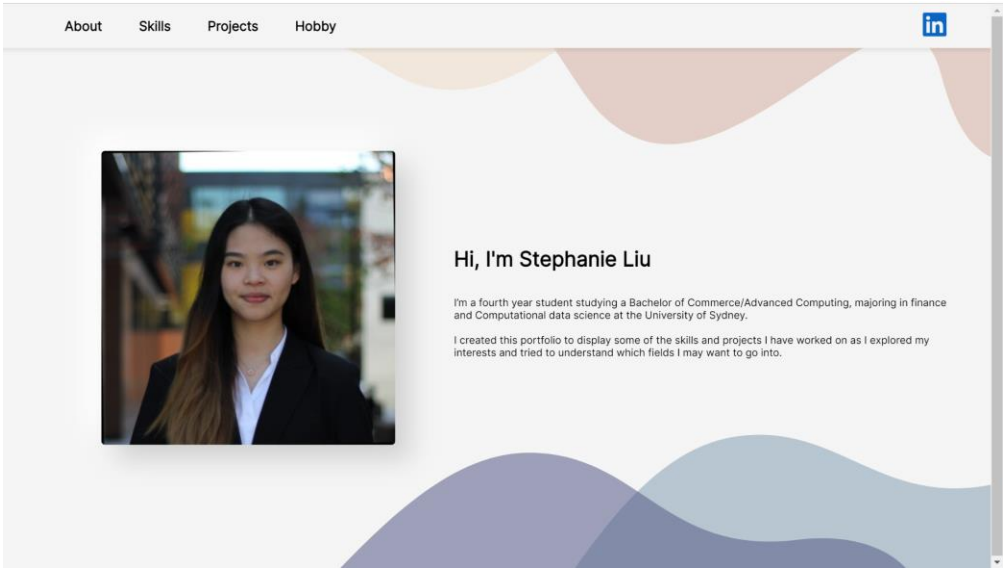
Whenever I created a new subsection on the page, I would give it a class or id and work on the CSS after all the content is placed onto the page, first ensuring the placement of the container is correct and then organising the placements of each individual item within the container. The background of each page was created by exporting the already designed background on Figma , copying the code from the “abouts.html” and css files and changing it to the different image. See below to see the code implementation.

For the table on the skills page, the text and placement of the table was established first, then I exported the progress bars as images from Figma and inserted them into the table.

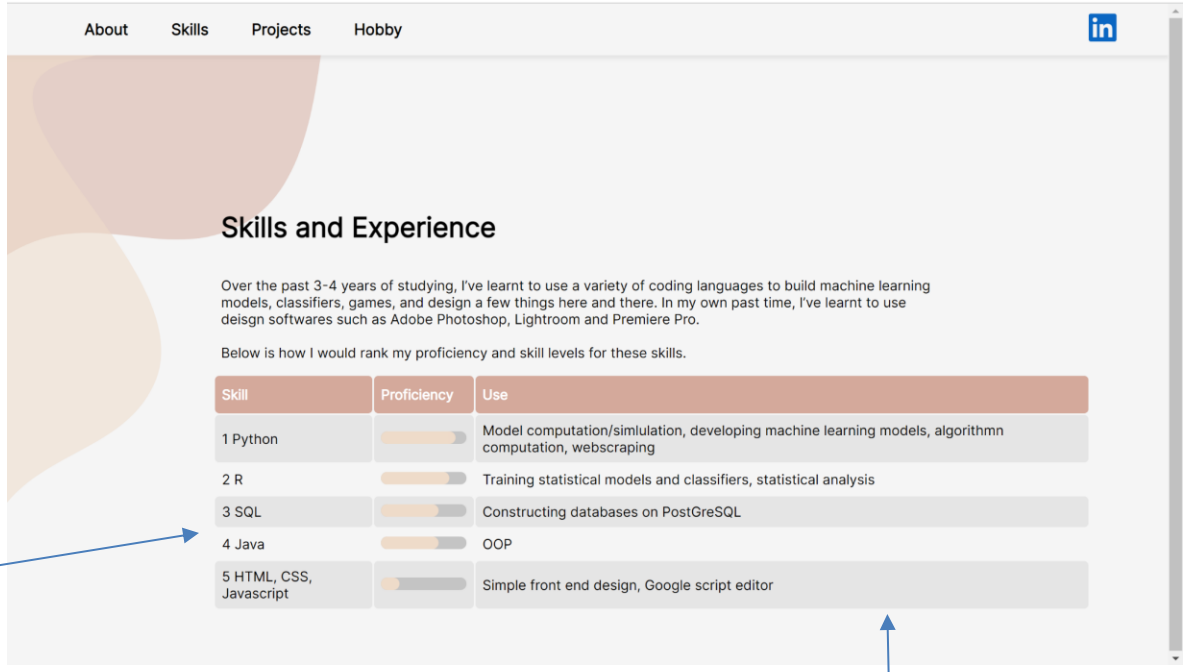
For the Hobby page, I organised the files into a folder first, mapped out the layout I wanted and put these images in a list. I then turned this list into a grid format to display it as so.

Screenshots

About page: (See above screenshots for code)



Skills page:



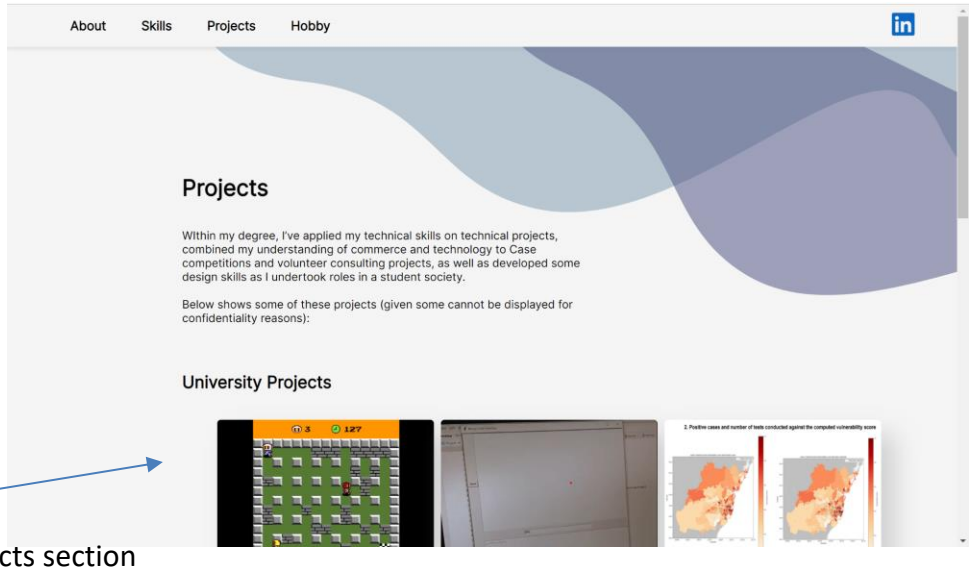
HTML for table

```
<!--- Creates a skills table - tr is row in table, th is header, td is table data. It is defininig per row  --->
<div class="skills_table">
    <table id = "skills_table">
        <tr>
            <th>Skill</th>  <!--- First entry is the name of the skill --->
            <th>Proficiency</th>
            <th>Use</th>
        </tr>
        <tr>
            <td>1 Python</td> <!--- First entry is the name of the skill --->
            <td><img src="img/Group 8.svg" width="100"></td> <!--- An image with progress bar --->
            <td>Model computation/simlulation, developing machine learning models, algorithmn computation, webscraping</t
        </tr>
        <tr>
            <td>2 R</td>
            <td><img src="img/Group 12.svg" width="100"></td>
            <td>Training statistical models and classifiers, statistical analysis</td>
        </tr>
        <tr>
            <td>3 SQL</td>
            <td><img src="img/Group 10.svg" width="100"></td>
            <td>Constructing databases on PostGreSQL</td>
        </tr>
        <tr>
            <td>4 Java</td>
            <td><img src="img/Group 10.svg" width="100"></td>
            <td>OOP</td>
        </tr>
        <tr>
            <td>5 HTML, CSS, Javascript</td>
            <td><img src="img/Group 11.svg" width="100"></td>
            <td>Simple front end design, Google script editor</td>
        </tr>
    </table>
</div>
```

CSS for table

```
/*Styling the table. Put exact position on page. Block display puts things as blocks stacked on top of each other on page

.skills_table{
    display: block;
    position: absolute;
    width: 1020px;
    height: 49px;
    left: 240px;
    top: 430px;

}
/*Rounded edges and pads so margins around the edge */

#skills_table td, #skills_table th {
    padding: 8px;
    border-radius: 5px ;

  }

  /*Changes colour of every second row in table */

  #skills_table tr:nth-child(even){background-color: rgba(196, 196, 196, 0.33);;}
/*Changes color when hovering over the row */

  #skills_table tr:hover {background-color: #ddd;}
/*Changes the header background colour and padding, aligns text to the left */


#skills_table th {
    padding-top: 12px;
    padding-bottom: 12px;
    text-align: left;
    background-color: #D4A99B;
    color: white;
  }
```

Projects Page:



HTML for University projects section

```
<!--- Contents of the page --->
<div class = "header_container">
    <div class="wrapper">
        <header>
            <!--- Description: h1 is header, br is break, p is paragraph  --->
            <div class = "skills_content">
                <h1>Projects</h1>
                <br></br>
                <p>
                    Within my degree, I've applied my technical skills on technical projects, combined my understanding
                    <br></br>
                    Below shows some of these projects (given some cannot be displayed for confidentiality reasons):

                </p>
            </div>
            <br></br>
            <!--- Divide into each sub category: university project --->
            <div class="University_projects">
                <h2>University Projects</h2>
                <br></br>
                <!--- List with each list element having image and descriotion below it  --->
                <ul id="uni">
                    <li>
                        <img src = "img/Bomberman.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
                        border-radius: 5px;"/>
                        <br></br>
                        Recreating Bomberman in Java with OOP.
                    </li>
                    <li>
                        <img src = "img/morse_code.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
                        border-radius: 5px;"/>
                        <br></br>
                        Creating a 3 class classifier translating blinking into morse code using Python and R.
                    </li>
                    <li>
                        <img src = "img/covid.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
                        border-radius: 5px;"/>
                        <br></br>
                        Creating a LGA covid-19 vulnerability classifier with Python, webscraping and SQL.
```

CSS for University projects section

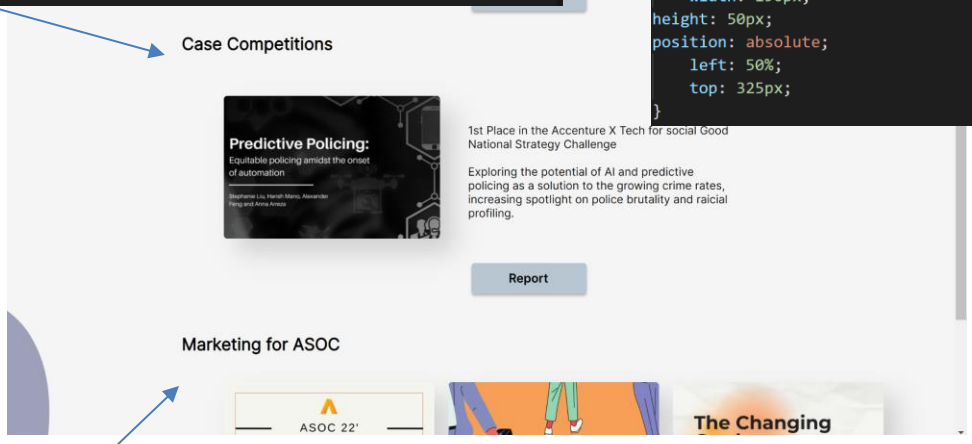
```
/* Absolute placment of the container */

.University_projects{

    position: absolute;
    width: 800px;
    height: 375px;
    left: 249px;
    top: 520px;
    }

/* Spacing between each of the projects */

#uni li{
    margin-left: 10px ;
    width: 308px;
}
/* Ensures images all the same size and text stacked below it  */

#uni img{
    width:308px;
    height:202px;
    display:block;
}
/* Sizing and placmene tof button */

.github_button img{
    position: absolute;
    left: 50%;
    top: 400px;
    width: 190px;
    height: 50px;

}
```

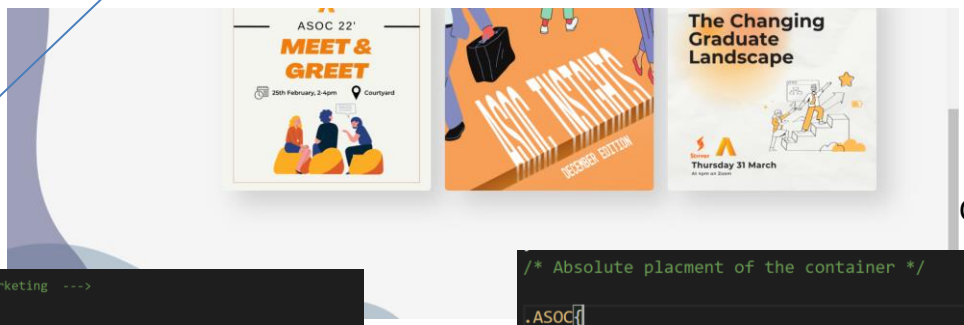
HTML for Case Competitions section

```
<!--- Divide into each sub category: case comps --->

<div class = "Case_comps">

    <h2>Case Competitions</h2>
    <br></br>
    <ul>
        <!--- Image --->
        <li>
        <img src = "img/case.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
                border-radius: 5px;"/>
        </li>
        <!--- Text describing  --->
        <li>
    <br></br>
    <p>
    1st Place in the Accenture X Tech for social Good National Strategy Challenge
    <br></br>
    Exploring the potential of AI and predictive policing as a solution to the growing crime rates, increas
    </p>
    </li>
     </ul>
    <br></br>
    <!--- Adding a button to link to the post (embeds link into image ) --->
    <a class ="report_button" href="https://www.linkedin.com/posts/harish-mano-b87939188_predictive-policin
        <img class="report" src="img/Group 14.svg" alt=""/>
    </a>

</div>
```

CSS for Case Competitions section

```
/* Absolute placment of the container */

.Case_comps{

    position: absolute;
    width: 800px;
    height: 300px;
    left: 249px;
    top: 995px;
    }
/* Sizing of the image and spacing between each element in lis

.Case_comps img{
    width:308px;
    height:202px;
    float:left;
}
.Case_comps li{
    margin:20px;
}
/* Absolute placment and sizing of the button  */

.report_button img{
    width: 190px;
height: 50px;
position: absolute;
    left: 50%;
    top: 325px;
}
```





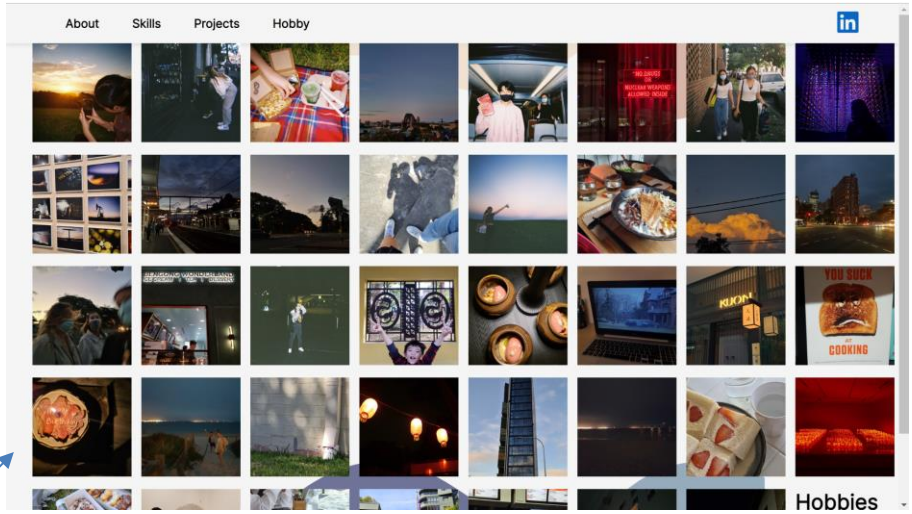
HTML for ASOC section

```
<!--- Divide into each sub category: ASOC marketing  --->
<div class="ASOC">

    <h2>Marketing for ASOC</h2>
    <br></br>
    <!---List of images  --->
    <ul id="asoc">
        <li>
            <img src = "img/Asoc1.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
            border-radius: 5px;"/>
            <br></br>
        </li>
        <li>
            <img src = "img/Asoc2.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
            border-radius: 5px;"/>
            <br></br>
        </li>
        <li>
            <img src = "img/Asoc3.png" alt="" style="box-shadow: 20px 20px 35px #d0d0d0;
            border-radius: 5px;"/>
            <br></br>
        </li>

    </ul>
</div>
```

CSS for ASOC section

```
/* Absolute placment of the container */

.ASOC{

    position: absolute;
    width: 800px;
    height: 375px;
    left: 249px;
    top: 1420px;
    }
/* Margin between each image and same image size */

#asoc li{
    margin-left: 20px;

}
#asoc img{
    width:300px;
    height:300px;
    display:block;

}
```

Hobbies Page:




```
<div class = "header_container">
    <div class="wrapper">
        <header>
            <ul class="photogrid">
                <!--- Photogrid using unordered list and grid formatting. Each image is a list element --->
                <li>
                    <img src="img/insta/a.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/aa.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/b.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/bb.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/c.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/cc.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/d.jpg" alt=""/>
                </li>
                <li>
                    <img src="img/insta/dd.jpg" alt=""/>
```

HTML for Hobby photo grid

CSS for Hobby photo grid

```
/* Makes each image a certain size and creates a grid with 8 images in 1 row. Gives 5px gap */

.photogrid{

    display:grid;
    grid-template-columns: repeat(8, 1fr);
    grid-gap: 15px;
}
.photogrid img{
    width: 150px;
    height: 150px;

}
```

3. Level 2 Submission

What are the key strengths of the item you have learnt?

HTML and CSS are widely used in front end and web development. It is quite an easy language to learn and there are many resources online teaching individuals how to use this. Another strength of HTML and CSS is that it can be useful to understand this in many cases, for example where you may want a specific design on a form or website as these generally use HTML and CSS or even web-scraping as you need to understand the how the DOM structure works.

What are the key weaknesses of the item you have learnt?

The key weakness of HTML and CSS is that they are a static language. If we want dynamic web pages, we will need to either add javascript or connect it to another application which can add logic into the html and CSS file. Further, HTML and CSS require a lot of trial and error to get an object to look the way you want on a page, especially when it comes to positioning items on the screen. This means it could potentially take a lot of time and effort to create these pages.

Describe one scenario under which you believe the topic you have learnt could be useful:

Understanding how to use HTML and CSS is useful if you were to create your own web application. By understanding how to manipulate HTML and CSS, you can connect this to web-application frameworks to generate an interactive website with a front-end and back-end side. By understanding how to use and read HTML and CSS, we can ensure that the user interface is effective and user centered and can change it if it isn't. It gives us the ability to design the web application and tailor it to look the way we want it to.

Level 2 Key Question 1: When would it be better to provide a PDF document rather than an HTML document?

PDF documents should be used when you require a hardcopy of something or require the document to be unchangeable. This is because a PDF document is a portable document format which allows for better layouts for printing whereas a HTML webpage layout does not translate as well when printing a document. Further, HTML documents can be edited as it is a markup language, it can be changed with the HTML file itself or on the browser with the "Inspect" button on Google. PDF documents are not editable and hence are better in cases where we want to ensure no one else can edit the document.

Level 2 Key Question 2: Identify something that you can't easily do in an HTML document. Why?

HTML documents are static files, meaning they can't be changed once it is running, and hence you cannot incorporate interactivity, make the webpage dynamic (e.g. updating data on the page once an action occurs) or process form data. HTML solely indicates the structure on the page and requires other programs to handle logic, e.g. javascript to incorporate interactivity through scripts or using web application frameworks to handle backend data and return it back to the webpage itself.

4. Level 3 Proposal

Proposed Advanced Application

My initial project was building an online portfolio with HTML and CSS. For the advanced extension I will incorporate javascript to implement interactivity on the page, e.g.:

- e.g. animations when clicking on the navigation bar
- e.g. zoom enlarging the photos on the hobby page when hovering over it
- e.g. fade ins of the background images and potentially items on the page

5. Level 3 Submission

Note: the following section is optional, and should ONLY be completed if you have received approval for your level 3 proposal.

Advanced application artifacts

Include here a description of what you actually created. Include any code or other related artefacts that you created (if these are too large to include here then they can be included as an appendix).

Screenshots

Include any screenshots or other images that demonstrate your successful completion of the application.

Annotate the screenshots to explain what it is showing and what the application does (e.g. if you have included a screenshot of a web page you created provide annotations to show what features and elements you have included in your web page).

6. Level 4 Submission

Note: the following section is optional, and should ONLY be completed if you have received approval for your level 3 proposal and included your level 3 submission above.

Alternative tools/technologies

Identify 2 alternative tools/technologies that can be used instead of the one you studied for your topic. (e.g. if your topic was Python, then you might identify Java and Golang)

Comparative Analysis

Describe situations in which both your topic and each of the identified alternatives would be preferred over the others (up to 300 words).

Choosing an approach

Consider a situation where you are now working, and your boss has asked for your views on whether the tool/technology you considered would be the right choice to use for some upcoming projects. Describe the factors that you might take into account in making this recommendation (up to 300 words).

7. References

(2022). Retrieved 8 April 2022, from https://www.youtube.com/watch?v=q_YNq0j_QfE&ab_channel=GTCoding

(2022). Retrieved 8 April 2022, from https://www.youtube.com/watch?v=cCNLD5IZY34&ab_channel=CharliMarieTV

Hot Questions - Stack Exchange. (2022). Retrieved 8 April 2022, from https://stackexchange.com/

HTML Tutorial. (2022). Retrieved 8 April 2022, from https://www.w3schools.com/html/default.asp