1. Navigation bar

```css
/*Creating variables to make it easier to make consistent changes*/
:root {
    --font-color: #091039;
    --nav-background: #F9F9ED;
    --element-background: #E1DBFD;
    --hover-color: #6E5FAF;
    --border-color: #BAB0E6;
    --border-size: 2rem;
}
```

Before anything was added, I created variables holding the colours outlined in the prototype in assignment 1, for consistency, and so I could access the colours easily without having to type them manually each time. This was done by using the ":root" selector, and I also used the universal selector to give a consistent font, box-sizing, and initial position (because there was a little gap between the elements and the top and left of the browser).

```html
<nav>
    <a href="Index.html"><img src="Images/Home.png" alt="Picture of 2 cursive J letters"></a> <!--Adds link to Home page via a picture of my initials-->
    <a href="About.html">About</a> <!--Adds link the the About page-->
    <a href="Experience.html">Experience</a> <!--Adds link to the Experience page-->
    <a href="Interests.html">Interests</a> <!--Adds link to the Interests page-->
    <a href="https://www.linkedin.com/in/jason-jeeeeee">LinkedIn</a> <!--Links to external LinkedIn profile-->
    <a href="mailto:js768355@dal.ca">Email</a> <!--Opens default mail app with my mail address-->
    <a href="Other/Resume.pdf" target="_blank">Resume</a>
</nav>
```

Initially, this was the HTML code that I used for the creation of my navigation structure/bar. It displayed everything together, with the default colour and style of the links (they remained purple after you clicked on them once, and they have an underline). This was obviously undesirable as it did not look like it was supposed to be the navigation structure, but rather a line with some links, which can be seen below.

JJ About Experience Interests LinkedIn Email Resume

Desired output (from prototype):

Below is the HTML and CSS code that was required to produce the desired output shown above.

```html
<nav>
    <div id="logo">
        <a href="Index.html"><img src="Images/Home.png" alt="Picture of 2 cursive J letters"></a> <!--Adds link to Home page via a picture of my initials-->
    </div>
    <div id="links">
        <a href="About.html">About</a> <!--Adds link the the About page-->
        <a href="Experience.html">Experience</a> <!--Adds link to the Experience page-->
        <a href="Interests.html">Interests</a> <!--Adds link to the Interests page-->
        <a href="Contact.html">Contact</a><!--Adds link to the Contact page-->
        <a href="https://www.linkedin.com/in/jason-jeeeeee">LinkedIn</a> <!--Links to external LinkedIn profile-->
        <a href="mailto:js768355@dal.ca">Email</a> <!--Opens default mail app with my mail address-->
        <a href="Other/Resume.pdf" target="_blank">Resume</a> <!--Opens resume PDF in new tab-->
    </div>
</nav>
```

Firstly, I set the background colours and font colours using the variables that I mentioned earlier. I made the whole navigation block a flexbox because the elements were all linear, so it made the most sense to implement a flexbox. The position was also set to fixed, so that on pages where there was enough content to scroll to, the navigation bar would always be present at the top of the viewport. I also set the z-index to 2, as the default value for everything else is 1, so that no matter what the navigation bar would always rest on top of any content that was scrolled over. I restyled the look of the links to make them match the presented look and theme of the prototype and made it so that whenever you hover over the links, the background and font colour would change, indicating that it indeed is a link, and you can click on it. The rest of the code focuses on positioning of the elements. A notable thing that I did was use a grid within the flexbox. I did this because I wanted to only have 2 flex items in the nav bar so that I could position them apart, rather than having each link as a flex item, where I would not be able to position them how I have using grid.

```css
/*For styling the nav bar*/
nav {
    background-color: var(--nav-background);
    width: 100%;
    position: fixed;
    display: flex;
    justify-content: space-between;
    align-items: center;
    padding: 0 10%;
    z-index: 2; /*For making nav bar go over all elements when scrolling*/
}

/*For making a grid that contains all on the navigation links*/
nav > #links {
    display: grid;
    grid-template-columns: auto auto auto auto auto auto auto;
    gap: 1rem;
    padding: 1.25rem;
}

/*For styling links in nav bar*/
#links > a {
    background-color: var(--element-background);
    color: ☐black;
    border-radius: var(--border-size);
    display: block;
    text-decoration: none;
    padding: 0.4rem;
}

/*Styles links when user hovers over them*/
#links > a:hover {
    background-color: var(--hover-color);
    color: ■white;
}

/*For styling image in nav bar*/
nav > #logo {
    text-align: center;
    padding: 0.5rem;
}
```
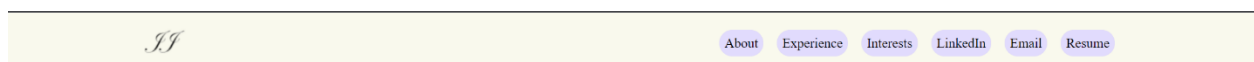
Once CSS was allowed to be used, I was able to make the placement of the elements on the page better, which at the same time followed the C.R.A.P principles. The desired look of the navigation bar can be seen below, and as can be seen, it adheres to the colour scheme that was stated in the prototype of assignment 1. (The black bar at the top is just the browser, not a border)

JJ   About   Experience   Interests   LinkedIn   Email   Resume

2. Unordered list

The code to the side is the initial code used to create the unordered list for assignment 1. All that I could do was create the list elements. There was not much else I could add with just HTML alone, I even had to add breaks between the list elements because I did not want them to be directly on top of each other, which was even flagged as an error by the HTML validator. Overall, the plain HTML list is visually lacking, and does not stand out among other elements. This can be seen in the screenshot below, alongside the desired output.

```html
<h2> <!--H2 to label another subsection-->
    Skills & Attributes
</h2>
<ul> <!--Unordered list used for presentation over an ordered list-->
    <li>
        Works well under pressure
    </li>
    <br>
    <br>
    <li>
        Can handle multiple tasks at once
    </li>
    <br>
    <br>
    <li>
        Follow directions well
    </li>
    <br>
    <br>
    <li>
        Is able to take lead of a group when necessary
    </li>
    <br>
    <br>
    <li>
        Very organised and hard working
    </li>
    <br>
    <br>
    <li>
        Able to follow a strict schdule
    </li>
    <br>
    <br>
    <li>
        Always punctual
    </li>
</ul>
```

Skills & Attributes

- Works well under pressure

- Can handle multiple tasks at once

- Follow directions well

- Is able to take lead of a group when necessary

- Very organised and hard working

- Able to follow a strict schdule

- Always punctual

Desired output (from prototype):

Below is the HTML and CSS code that was required to style the unordered list presented above.
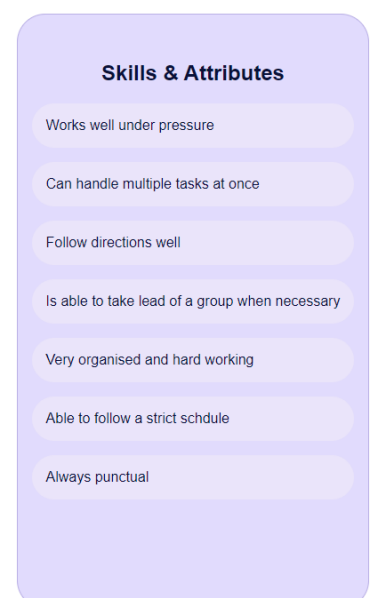
```css
/*For styling the unordered list on the about page*/
#skillsAttributes {
    background-color: var(--element-background);
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
}

/*More styling on the lists, and list elements on the about page*/
#skillsAttributes > ul > li, ul > ol > li  {
    background-color: ■#eae4fa;
    border-radius: var(--border-size);
    padding: 1rem;
    margin: 1rem;
}
```

```html
<!--Creating skills and attributes section-->
<div id="skillsAttributes">
    <h2> <!--H2 to label another subsection-->
        Skills & Attributes
    </h2>
    <ul> <!--Unordered list used for presentation over an ordered list-->
        <li>
            Works well under pressure
        </li>
        <li>
            Can handle multiple tasks at once
        </li>
        <li>
            Follow directions well
        </li>
        <li>
            Is able to take lead of a group when necessary
        </li>
        <li>
            Very organised and hard working
        </li>
        <li>
            Able to follow a strict schdule
        </li>
        <li>
            Always punctual
        </li>
    </ul>
</div>
```

The overall HTML did not change much, except for the addition of a div container with an ID associated with it describing what is in the container. The main additions are in the CSS. Firstly, I styled the container of the list, as I want to keep all the containers consistent throughout the website. This was done by using the variables defined at the beginning for the background colour, border, and the border radius. This gives the subtle and appealing look of the overall container. Next, I used child (and multiple selector, except that is because I wanted to reuse the code for styling the nested list on the Experience page) to select all of the list elements the container, and style them with the given rules. I used a lighter purple colour because I did not want it to stand out severely if I were to use a contrasting colour, but rather be a subtle transition of colour into the element. This still allows for the elements to be differentiated from the container background colour, however it does not stand out significantly on the whole webpage. I also made sure to round the borders, because virtually everything on the website has rounded borders, so I made sure to keep these elements consistent as well.

After adding the appropriate CSS code to style the list, it instantly became more visually appealing, and fit well into the colour scheme again, presented before in the prototype. The styled list can be seen to the right. This again not only is coherent with the colour scheme present, but also the C.R.A.P principles, as each list element is styles similarly (as well as list elements that are present on another page), and they are all visually connected.

Skills & Attributes

Works well under pressure

Can handle multiple tasks at once

Follow directions well

Is able to take lead of a group when necessary

Very organised and hard working

Able to follow a strict schdule

Always punctual

3. Index page introduction

```html
<h2> <!--H2 used to label subsection-->
    A Brief Introduction
</h2>
<p> <!--P tag used for general paragraph-->
    I am a keen student at Dalhousie University who always strives to produce quality work. <br>
    I always deliver assignments and projects well ahead of the specified deadline, <br>
    and can take lead of a group when necessary. I also work well individually, but <br>
    am able to collaborate together proficiently with similar, and diverse minds.
</p>
<a href="About.html"><strong>About</strong></a> <!--Adds link the the About page-->
<br><br><br>
<img src="Images/Profile.jpg" alt="Profile picture of me" width="150">
```
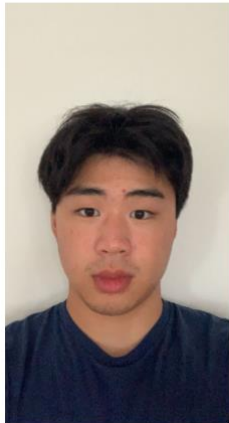
Initially, this was the HTML code that I used to present a short introduction to me on my Index page. As you can see, there are a lot of line breaks which I had to use as a workaround for not being able to implement CSS, to make my website not look horrendous. The result of the above code can be seen in the image below, as well as the desired output from the prototype.
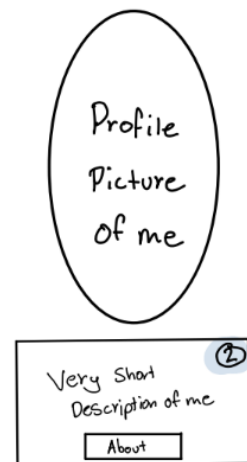
A Brief Introduction

I am a keen student at Dalhousie University who always strives to produce quality work.
I always deliver assignments and projects well ahead of the specified deadline,
and can take lead of a group when necessary. I also work well individually, but
am able to collaborate together proficiently with similar, and diverse minds.

About

Desired output (from prototype):

It is not necessarily bad, mainly because of all the line breaks, however it is far from visually appealing. Especially because everything is left aligned, the picture looks very out of place in respect to the text. Even the link is very lackluster compared to the newly styled navigation bar links.

The code that was used to style this can be found below.

```html
<div id="description">
    <img id="profileImage" src="Images/Profile.jpg" alt="Profile picture of me">
    <h2> <!--H2 used to label subsection-->
        A Brief Introduction
    </h2>
    <p> <!--P tag used for general paragraph-->
        I am a keen student at Dalhousie University who always
        strives to produce quality work. I always deliver assignments
        and projects well ahead of the specified deadline,
        and can take lead of a group when necessary. I also work
        well individually, but am able to collaborate together
        proficiently with similar, and diverse minds.
    </p>
    <a href="About.html"><strong>About</strong></a> <!--Adds link the the About page-->
</div>
```

Again, not much changed with the HTML, except for the fact that I created a container for all the content so that it could be arranged properly in a grid. As mentioned before, not many changes were made. Moreover, not many unique changes were made to this section of HTML code. The border of the image was rounded in the same fashion, and given the colour of the CSS variable, to be consistent with the rest of the borders, and the link has the same properties that the links in the navigation bar have. Although the changes may not be drastic, the presentation of this content is especially important, as it is the focal point of the landing page, which is the most important page of the website, so even though the changes are near negligible, the changes make it look cleaner overall, and much more presentable.

```css
/*For styling the section that holds my description on main page*/
#description {
    text-align: center;
    padding-top: 2rem;
    width: 30rem;
    grid-area: description;
}

/*For styling the profile picture of me on main page*/
#profileImage {
    border-radius: 5rem;
    border: 0.1rem solid var(--border-color);
    width: 15rem;
}

/*For styling link in the description section slightly different than links in nav bar*/
#description > a {
    background-color: var(--element-background);
    color: black;
    border-radius: var(--border-size);
    text-decoration: none;
    padding: 0.4rem;
}

/*For adding same change when hovering as nav bar links*/
#description > a:hover {
    background-color: var(--hover-color);
    color: white;
}
```
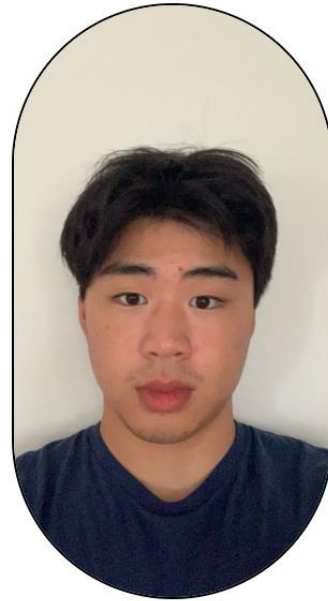
Once I was able to use CSS, I did not necessarily modify the contents a great deal, however overall, it is very noticeable how much a different the subtle changes make. The new presentation of the content can be seen in the image to the right. As you can see, not much has changed, yet overall, it does look much cleaner and more presentable. Everything is aligned in the center, which allows for a visual connection to be established between the image and the text, and the link is styled so that it matches the links in the navigation bar. Also, the presence of the link is there so that after you have read the short introduction, you can learn more about me by clicking the link that is right nearby in the same section, which makes it easier for the user as the similar content is grouped together.

A Brief Introduction

I am a keen student at Dalhousie University who always strives to produce quality work. I always deliver assignments and projects well ahead of the specified deadline, and can take lead of a group when necessary. I also work well individually, but am able to collaborate together proficiently with similar, and diverse minds.

About

4. Projects section

```
<center>
    <h2> <!--H2 to label subsection-->
        Projects
    </h2>
</center>
<video src="Other/ExperimentalRoboticsVideo.MOV" controls width="400"></video> <!--video with controls so that the user is able to
<p> <!--Caption of video so that user knows relevance-->
    This a a video showcasing a project that was completed in an experimental robotics course at Dalhousie University <br>
    The robot had to be programmed to complete a random arrangement of a course based off of a bit pattern that it would read <br>
    from it's surroundings, all within a one minute time limit
</p>
```

The above is the code that I initially used to display the projects that I have completed in the past. There is not much to it, just a header, a video, and a description of the video. I also had to make use of the deprecated center tag so that I could make the header in the center of the page. However, I am not sure why I did this because I only had one project to display, and it was left aligned, so the resulting output looked odd – this can be seen in the image below.
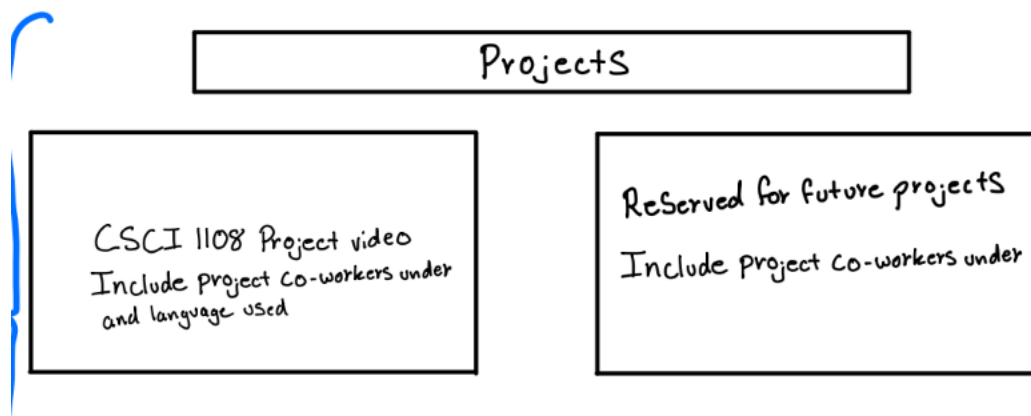
Projects

This a a video showcasing a project that was completed in an experimental robotics course at Dalhousie University
The robot had to be programmed to complete a random arrangement of a course based off of a bit pattern that it would read
from it's surroundings, all within a one minute time limit

This output is far from appealing, as for some reason I decided to make only the header centered, with the actual content left aligned. Also, the description of the video spans much wider than the video itself, which visually makes no sense.

Desired output (from prototype):

The code that was used to style this can be found below.

```html
<h2> <!--H2 to label subsection-->
    Projects
</h2>
<!--Creating projects section section-->
<div id="experienceFlex">
    <div id="robotics">
        <video id="roboticsVideo" src="Other/ExperimentalRoboticsVideo.MOV" controls></video> <!--video with controls so that the
        <p> <!--Caption of video so that user knows relevance-->
        This a a video showcasing a project that was completed in an experimental robotics course at Dalhousie University
        The robot had to be programmed to complete a random arrangement of a course based off of a bit pattern that it would read
        from it's surroundings, all within a one minute time limit
        </p>
    </div>
    <div class="placeholder">
        <p>This is a placeholder for future projects</p>
    </div>
</div>
```

Just like with the rest of the code snippets, not much has changed with the HTML, except for the addition of containers to hold elements, as well as their respective IDs. However, there is also the addition of the aforementioned placeholder container for future content, which would have had to be added to the HTML code. Also as mentioned before, the nature of the container for the projects allows it to be flexible in displaying more than just one or two elements, because it is done using flexbox. This allows for a quick reposition of elements when another is added, without causing any trouble at all. Aside from that, most of the other CSS used to style this HTML is relatively like how other elements were styled in previous examples. The CSS variables were use again for all these elements to maintain consistency with the rest of the elements on the website.

```css
/*For styling the display of projects on the experience page*/
#experienceFlex {
    display: flex;
    justify-content: center;
    gap: 5rem;
}

/*For styling the presentation of past robotics project on experience page*/
#robotics {
    background-color: var(--element-background);
    color: var(--font-color);
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
    text-align: center;
    width: 35em;
    padding: 2rem;
}

/*For styling the video in the experience page*/
#roboticsVideo {
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
    width: 30rem;
}

/*For styling the project placeholder on the expeience page*/
.placeholder {
    background-color: var(--element-background);
    columns: var(--font-color);
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
    width: 35rem;
    text-align: center;
    padding: 14rem 0;
}
```
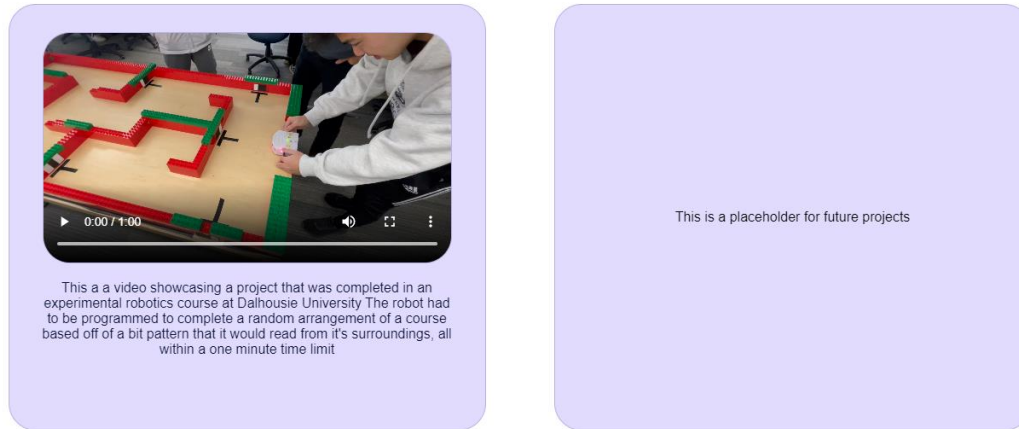
This original output can greatly be improved on, and is after the implementation of CSS, which can be observed in the image below.

Projects

This a a video showcasing a project that was completed in an experimental robotics course at Dalhousie University The robot had to be programmed to complete a random arrangement of a course based off of a bit pattern that it would read from it's surroundings, all within a one minute time limit

This is a placeholder for future projects

Not only does it look better because of the implemented CSS, but also because I added a placeholder container for future projects, so it does not look so barren. The text describing the video also does not overflow past the video itself, which makes it more visually appealing, as well as the fact that the elements are aligned symmetrically. This would also still be the case if there were more projects added down the line (which is good because this website is supposed to be practical), due to the nature of how the container was styled.

5. Images on Interests page

```
<br><br> <!--Multiple breaks to allow for better formatting of elements, so they are not too close together-->
<img src="Images/Bridge.jpg" width="600" alt="Scenic picture of MacKay bridge in Halifax Nova Scotia"> <!--Widt
<br>
<p>
    Although I am not big into photography, I can still appreciate a good photo when I see one. <br>
    And despite my photography skills not being exceptionally good, I do try to capture the scenary <br>
    when I see approriate. This is a picture of the MacKay bridge in Halifax Nova Scotia during sunset.
</p>
<br><br> <!--Multiple breaks to allow for better formatting of elements, so they are not too close together-->
<img src="Images/Badminton.jpg" alt="Image of members of my high school badmintont team and I" width="600">
<p>
    Throughout junior high and high school, I enjoyed playing doubles badminton both leisurely, and <br>
    competitively.Due to COVID-19, I was only able to play competitively in my senior year of high school, <br>
    but I was able to win the metro and regional tournaments in doubles.
</p>
```

This is the HTML code that I have used to present some images the expressed my interests outside of the work-related matters. It is merely a couple of images followed by some line breaks to make it look a little more presentable, and then captions describing each of the images. These breaks were again, a way to make it look a little better without the use of CSS, as text directly under a photo is very visually unpleasant. The result of this HTML code can be seen in the page below.

This is undesirable, as you need to scroll down in order to see both images because they are left aligned, and because they really stand out against the white background compared to all of the other elements on the page. This was improved on with the addition of CSS, so that both images would be able to be presented side-by-side, and it made them stand out a little less with the addition of background colour, when all the other elements were also given background colour.
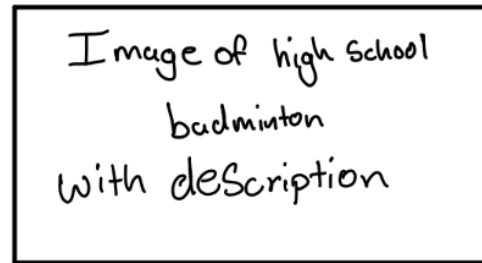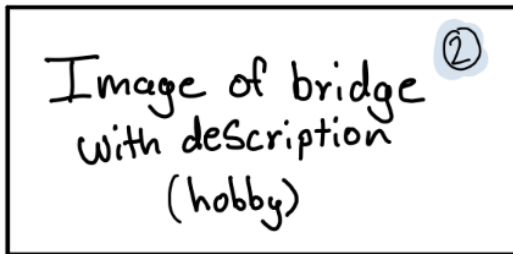

Although I am not big into photography, I can still appreciate a good photo when I see one. And despite my photography skills not being exceptionally good, I do try to capture the scenary when I see approriate. This is a picture of the MacKay bridge in Halifax Nova Scotia during sunset.

Throughout junior high and high school, I enjoyed playing doubles badminton both leisurely, and competitively.Due to COVID-19, I was only able to play competitively in my senior year of high school, but I was able to win the metro and regional tournaments in doubles.

Desired output (from prototype):

The code that was use for styling these images can be found in the images below.

```html
<!--Creating section for bridge photo-->
<div id="bridge">
    <img class="images" src="Images/Bridge.jpg" width="600" alt="Scenic picture of MacKay bridge in Halifax Nova Scotia"> <!--
    <p>
        Although I am not big into photography, I can still appreciate a good photo when I see one.
        And despite my photography skills not being exceptionally good, I do try to capture the scenary
        when I see approriate. This is a picture of the MacKay bridge in Halifax Nova Scotia during sunset.
    </p>
</div>
<!--Creating section for badminton team photo-->
<div id="badminton">
    <img class="images" src="Images/Badminton.jpg" alt="Image of members of my high school badmintont team and I" width="600">
    <p>
        Throughout junior high and high school, I enjoyed playing doubles badminton both leisurely, and
        competitively.Due to COVID-19, I was only able to play competitively in my senior year of high school,
        but I was able to win the metro and regional tournaments in doubles.
    </p>
</div>
```

```css
/*For styling the picture of a bridge on the interests page*/
#bridge {
    background-color: var(--element-background);
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
    padding: 1rem;
    grid-area: bridge;
}

/*For styling the picture of my badminton team on the interests page*/
#badminton {
    background-color: var(--element-background);
    border-radius: var(--border-size);
    border: 0.1rem solid var(--border-color);
    padding: 1rem;
    grid-area: badminton;
}
```
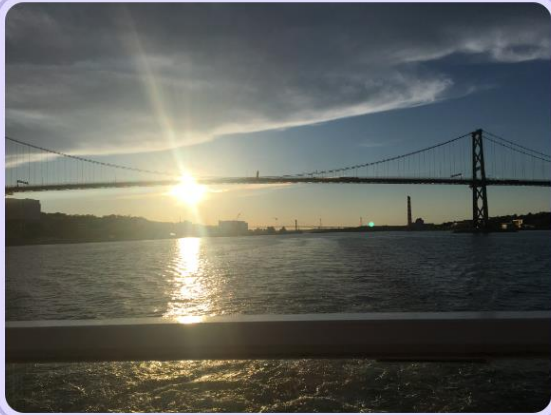
```css
/*For styling most images throughout website*/
.images {
    border-radius: 2rem;
    border: 0.3rem solid ■#bab0e6;
    padding: 0.5rem;
    margin: 1rem;
}
```

There was again nothing out of the ordinary when it came to styling these images, mainly all that was needed was to follow the theme that I have been using to style containers throughout the website. The only difference is that these images also had the class "images" which allowed them to be styled with borders, margins, and padding. This allowed for that visual presentation akin to a polaroid film. Another reason why this was improved from the original code is because the container that holds all the elements on the page was a grid, so these images were able to be displayed side-by-side, rather than vertically.

After implementing CSS:

Although I am not big into photography, I can still appreciate a good photo when I see one. And despite my photography skills not being exceptionally good, I do try to capture the scenary when I see approriate. This is a picture of the MacKay bridge in Halifax Nova Scotia during sunset.

Throughout junior high and high school, I enjoyed playing doubles badminton both leisurely, and competitively.Due to COVID-19, I was only able to play competitively in my senior year of high school, but I was able to win the metro and regional tournaments in doubles.

As can be seen, the presentation of the image is much nicer, and when put together with the rest of the elements on the page, they do not stand out as much as they did before in the previous assignment. This is important for visual flow, as well as matching the colour scheme of the website, even though that cannot really be helped because the contents of the image are set and cannot be changed. Also, the addition of the borders, padding, and margins allow for the presentation of the picture to almost resemble that of a polaroid camera film, which I find to be quite visually pleasing.