Topic	Capstone class: Advanced CSS	
Class Description	**Students will learn to set appropriate margin and padding for the different elements in the page. They will learn advanced css selectors like ':list' and ':hover'. They will also learn advanced CSS effects like change in opacity when the mouse is hovered over an element.**	
Class	**C52**	
Class time	**45 mins**	
Goal	• Set correct margin and padding effects on the portfolio header. • Change the color of visited and unvisited links in the header using the ':list' selector. • Create a hover effect to display the name of the game, when the mouse is hovered over the image.	

Resources Required	• Teacher Resources
	  ○ Laptop with internet connectivity
	  ○ Earphones with mic
	  ○ Notebook and pen
	  ○ Visual Code Studio installed
	• Student Resources
	  ○ Laptop with internet connectivity
	  ○ Earphones with mic
	  ○ Notebook and pen
	  ○ Visual Code Studio installed	

Class structure	**Warm Up** **Teacher-led Activity** **Student-led Activity** **Wrap up**	**5 mins** **15 min** **15 min** **5 min**

WARM-UP SESSION - 5 mins

Teacher starts slideshow **from slides 1 to 12**

Refer to speaker notes and follow the instructions on each slide.

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Activity details	Solution/Guidelines
Hi, how have you been? Are you excited to learn something new? ***Run the presentation from slide 1 to slide 3.*** **The following are the warm-up session deliverables:** • Reconnect with previous class topics. • Warm-Up quiz session.	**ESR**: Varied Response. Click on the slide show tab and present the slides.
QnA Session	
Question	**Answer**
Which option will update the background color of the body tag as “teal” color? The hexadecimal number for teal is #008080. A. background:#008080 B. background-color:#008080 C. color:#008080 D. bgcolor:#008080	**B**
Identify the correct option to update the value of the padding to 30px and margin to 25px in the div class “origami”.	**C**

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A.
```
origami {
  padding: 40px;
  margin: 25px;
}
```

B.
```
-origami {
  padding: 40px;
  margin: 25px;
}
```

C.
```
.origami {
  padding: 40px;
  margin: 25px;
}
```

D.
```
*origami {
  padding: 40px;
  margin: 25px;
}
```

Continue the warm-up session	
Activity details	**Solution/Guidelines**
Run the presentation from slide 4 to slide 12 to set the problem statement. **The following are the warm-up session deliverables:** ● **Show certain default effects in the page - change in color - when you click on a link.** ● **Observe certain issues in the portfolio page like "student name" in the header cramped to the right.**	

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Teacher ends slideshow		
TEACHER-LED ACTIVITY - 15 mins		
Teacher Initiates Screen Share		
CHALLENGE **Differentiate between margin and padding.** **Use Advanced css selector ':list' to change the color of a visited link.**		
Step 2: Teacher-led Activity (15 min)	When we used Flexbox for our page layout, it automatically gave appropriate spacing between the different elements. However, sometimes we might need more control on how much spacing we want between the elements. For example: As we talked, we are not very happy about how cramped the header elements are to the right and left side of the page.	Student listens.

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	There are two ways in which we can customize the spacing between the elements - using margins and padding properties. They are important properties, often used in CSS and it is also important to differentiate between the two. To understand the difference, let's add a border around each element inside the header. What should we do to do that?	The student guesses. He/She gives a reference to the header class inside which all the elements are present.
	Earlier, when we wanted a box around every element in the page, we used * as a CSS selector. Now when we need all the elements inside header class, we can use ".header *" as the CSS selector. Do you remember why we use "." before header?	ESR: Yes, because it is a class name. Class names have selectors beginning with "." HTML tags are referenced without the "."

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	Teacher adds code in style.css to reference the elements inside the header tag and add a solid border around each element. Teacher shows the output	The student observes and learns.

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	Now, our issue was that the name in the header (under h1 tag) is too cramped to the left.	The student listens and asks questions for clarity.

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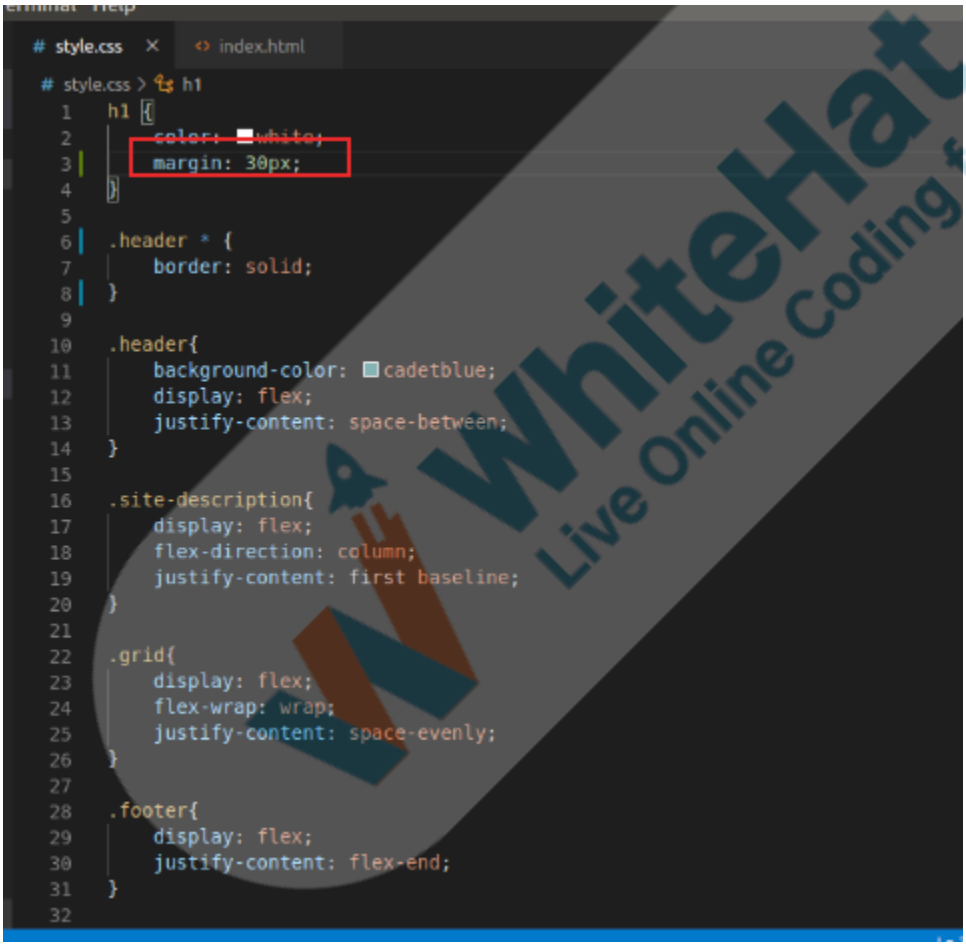
	I will be using the two properties - margin and padding - separately on h1 to create the proper spacing. You need to tell me the difference between the two.	
	Teacher adds a margin of 30 px and shows the output. Note: px stands for pixels. the screen is made up of pixels. What do you see?	There is space of 30 pixels created all around the h1 box.



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	Great. we could have also chosen to add margin to only the left side of the box using margin-left property. Teacher writes code and shows the output. What do you see?	Now there is a margin of 30px only to the left. OR The box has moved 30px to the right.

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style.css

```
h1 {
    color: white;
    margin-left: 30px;
}

.header * {
    border: solid;
}

.header{
    background-color: cadetblue;
    display: flex;
    justify-content: space-between;
}

.site-description{
    display: flex;
    flex-direction: column;
    justify-content: first baseline;
}

.grid{
    display: flex;
    flex-wrap: wrap;
    justify-content: space-evenly;
}

.footer{
    display: flex;
    justify-content: flex-end;
}
```

	Great! Now let's look at the padding property.	

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	Teacher adds a padding-left to h1. Teacher runs the code and shows the output. What do you see?	The box is still there but the content inside the box has moved to the right.

```
# style.css
h1 {
    color: white;
    padding-left: 30px;
}

.header * {
    border: solid;
}

.header{
    background-color: cadetblue;
    display: flex;
    justify-content: space-between;
}

.site-description{
    display: flex;
    flex-direction: column;
    justify-content: first baseline;
}

.grid{
    display: flex;
    flex-wrap: wrap;
    justify-content: space-evenly;
}

.footer{
    display: flex;
    justify-content: flex-end;
}
```

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	Yes! We say that a padding of 30 pixels has been added to the content inside h1. Sometimes we need margin, padding or both while creating design layouts. For now, let's revert to the margin-left property.	Student listens and asks questions.
	Now, I want you to observe how the links to the right automatically take blue color. This is the default color scheme of any links on the page. What if we wanted their color to be different? Also, the color of a link when visited changes slightly. What can we do to control the color of the link after it is visited?	The student thinks about it for a few seconds.
	We have two selectors which allow us to customize the style of links. • 'a:link' allows us to customize the style of links. • 'a:visited' allows us to customize the style of visited links. Let's try this out. Can you guide me on what colors and style should be used for the links	The student guides the teacher to write style code inside the css selector a:link and a:visited.
	Teacher writes the code with the help of the inputs given by the student and runs it to see the output.	

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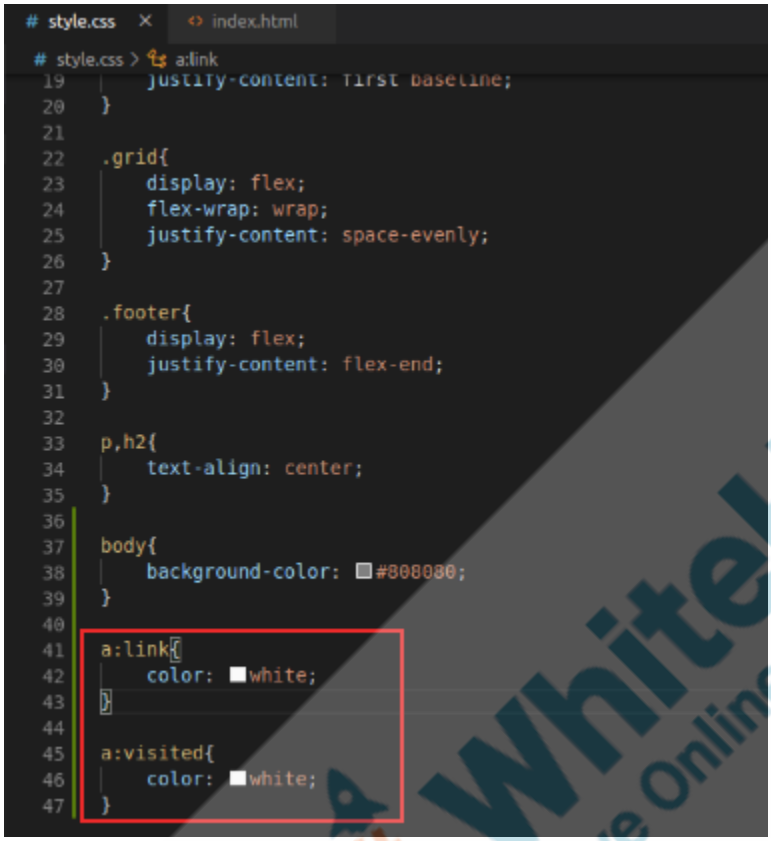
	What do you see? You can add more style to the links.	The link colors have changed.



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	Alright. Here is a challenge for you. I want you to create proper margins and padding for the links on the right. Once you are done, I will help you to create an effect where the game name appears on the page only when the mouse is hovered over the image. Let's start.	-
Teacher Stops Screen Share		
	Now it's your turn. Please share your screen with me.	
STUDENT-LED ACTIVITY - 15 mins		
• **Ask Student to press ESC key to come back to panel** • **Guide Student to start Screen Share** • **Teacher gets into Fullscreen**		
ACTIVITY **Add proper margin and padding effects on different elements in the page. Use Advanced css selector ':hover' to display the name of the game only when mouse is hovered over the image.**		
Teacher starts slideshow **from slides 13 to 15.** Refer to speaker notes and follow the instructions on each slide.		
Step 3: Student-Led Activity (15 min)	Guide the student to add proper margin and padding to the links to the right. If we want to add margin to the left of both the links, which element should I add margin to?	ESR: "menu" class since it contains both the link elements.

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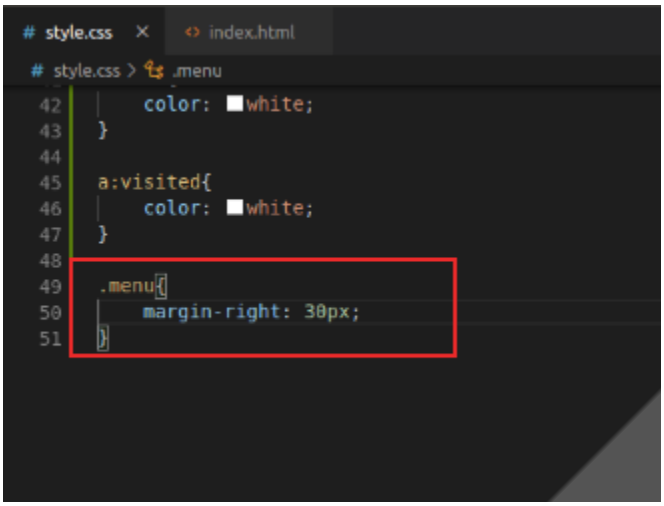
	Ok, why don't you add some margin to the right of the “menu” class.	The student writes code to add some right margin to the “menu” class.
		
	What if we want the two links - Projects and About Me - to be spaced a little apart? Which css selector we will be adding the margin to? If we add the margin to the ".menu li" , only the li elements inside the menu	ESR: We can add some margin-left to the link elements. ESR: we will be adding the css element to the <li> element.

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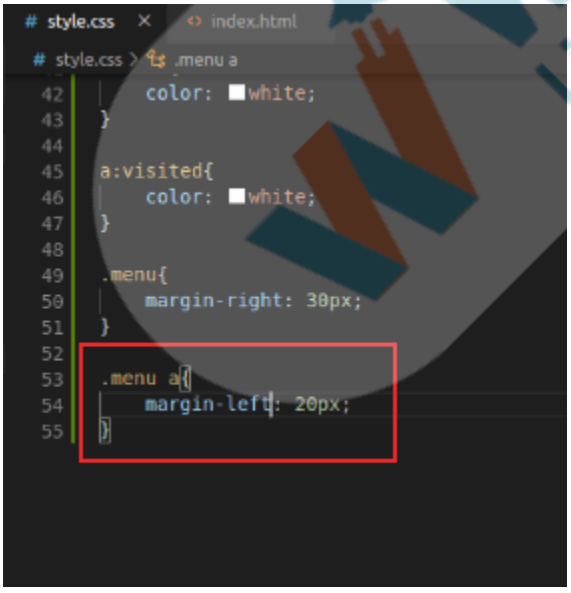
	class will take the style. All other links will remain unchanged.	
	Teacher helps the student with the code.	The student writes the code to add margin-left to the li elements inside the menu. He/She runs the code to check the output.



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	Let's try writing code for displaying text on the top of the image first. We want the text to be centred in the div containing the image. The <p> and the <img> tags are contained inside item div class. We want to position elements inside item div class in relative position to it. For example: We want the text to be centred relative to this div and not the entire page. We will add the property "position: relative" in the item class. We will also add the property "position:absolute" in the <p> tag inside item. We want to align the text inside <p> 50% from the top and 50 % from the left. We can use these properties to style the text.	Student writes the code and checks the output.

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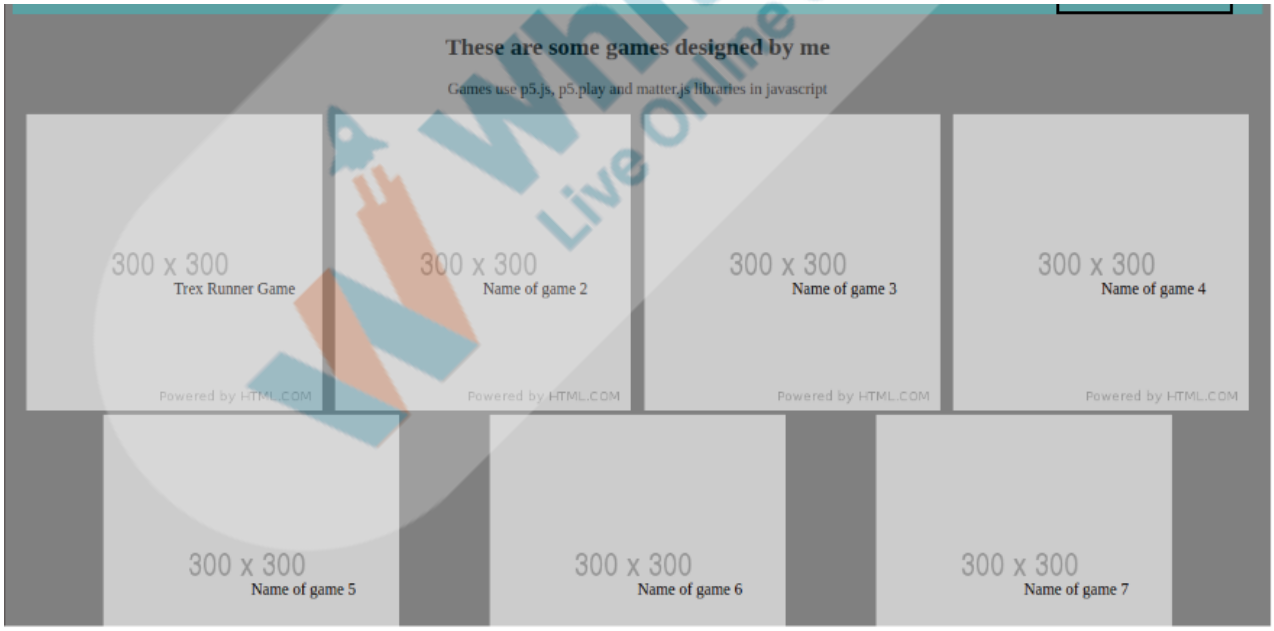
```
# style.css > ...
35  }
36
37  body{
38      background-color: #808080;
39  }
40
41  a:link{
42      color: white;
43  }
44
45  a:visited{
46      color: white;
47  }
48
49  .menu{
50      margin-right: 30px;
51  }
52
53  .menu a{
54      margin-left: 20px;
55  }
56
57  .item{
58      position: relative;
59  }
60
61  .item p{
62      position: absolute;
63      top: 50%;
64      left: 50%;
65  }
66
```



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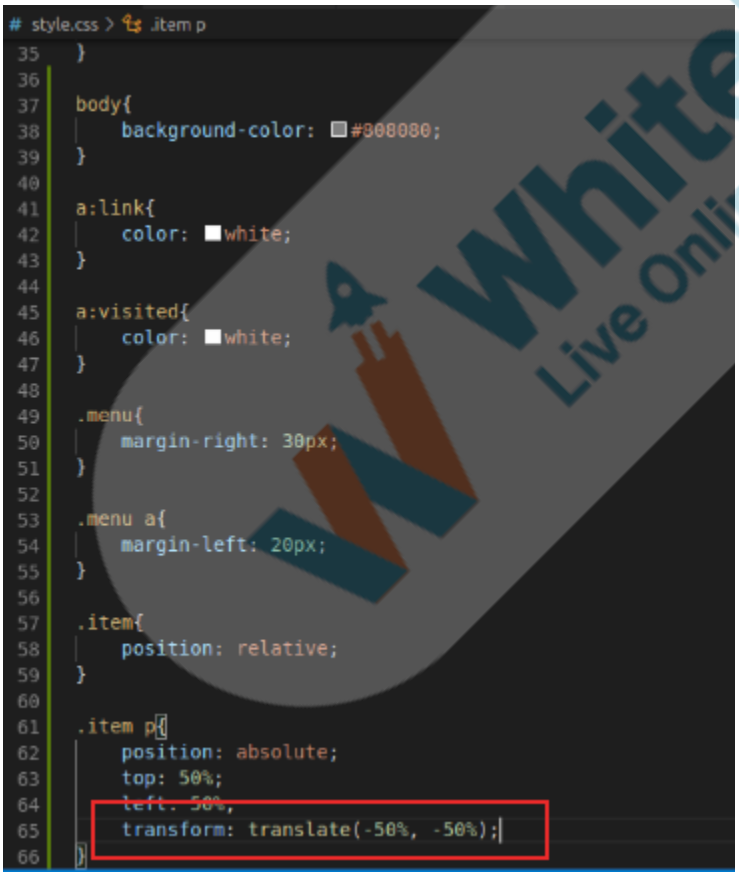
	You will notice that the text is not aligned exactly at the centre of the image - this is because the text STARTS from the centre but the width and height of the text is not taken into account. There is a simple transformation using which we can translate the text to start so that the entire text is centred. Guide the student to use the transform property to translate the text. Allow the student to experiment with “transform” property.	The student writes the code to check the output.



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	But we do not want the text to be always displayed. We want it only when we hover over the image. Visibility is controlled by 'opacity' property. We can change the opacity of the text to 0. However, when we hover, we want the opacity to become 1. We use ':hover' selector over the item to style the <p> element when the mouse is hovered over the item div class. Guide the student to write the code for this.	The student writes the code and checks the output by hovering over the item class div.

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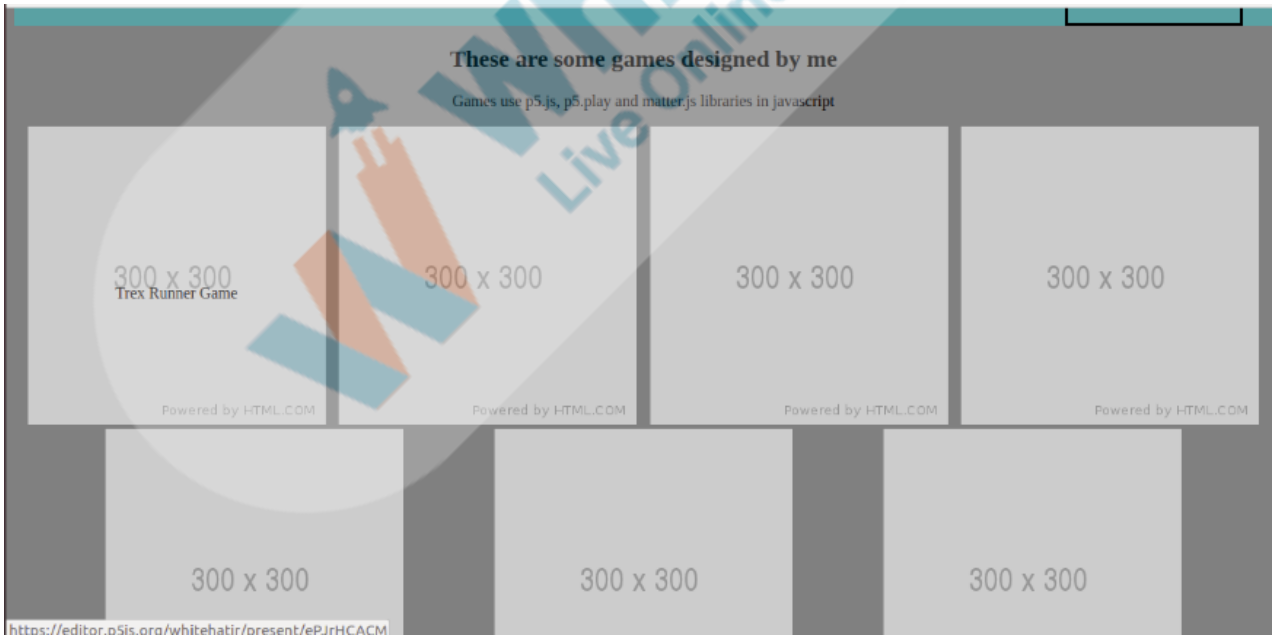
style.css aboutme.html index.html

style.css > .item p

```
41  a:link{
42      color: white;
43  }
44
45  a:visited{
46      color: white;
47  }
48
49  .menu{
50      margin-right: 30px;
51  }
52
53  .menu a{
54      margin-left: 20px;
55  }
56
57  .item{
58      position: relative;
59  }
60
61  .item p{
62      position: absolute;
63      top: 50%;
64      left: 50%;
65      transform: translate(-50%, -50%);
66      opacity:0;
67  }
68
69  .item:hover p{
70      opacity: 1;
71  }
72
```



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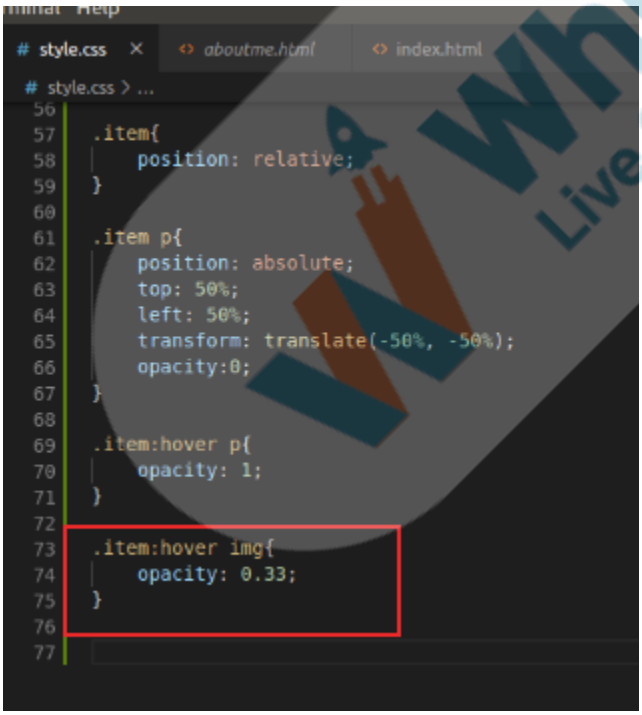
	What is happening here? Can you explain in your own words?	ESR: When the mouse is not hovered over the item div class, the item has a different style, but when we hover the mouse over the item, the style of the text changes. We used ":hover" to tell the computer what style to render when the mouse is hovered over the item.
	Awesome! Now can you also reduce the opacity of the image to one-third when the mouse is hovered over the item.	The student writes the code to change the opacity of the image. He/She runs the code and checks the output.



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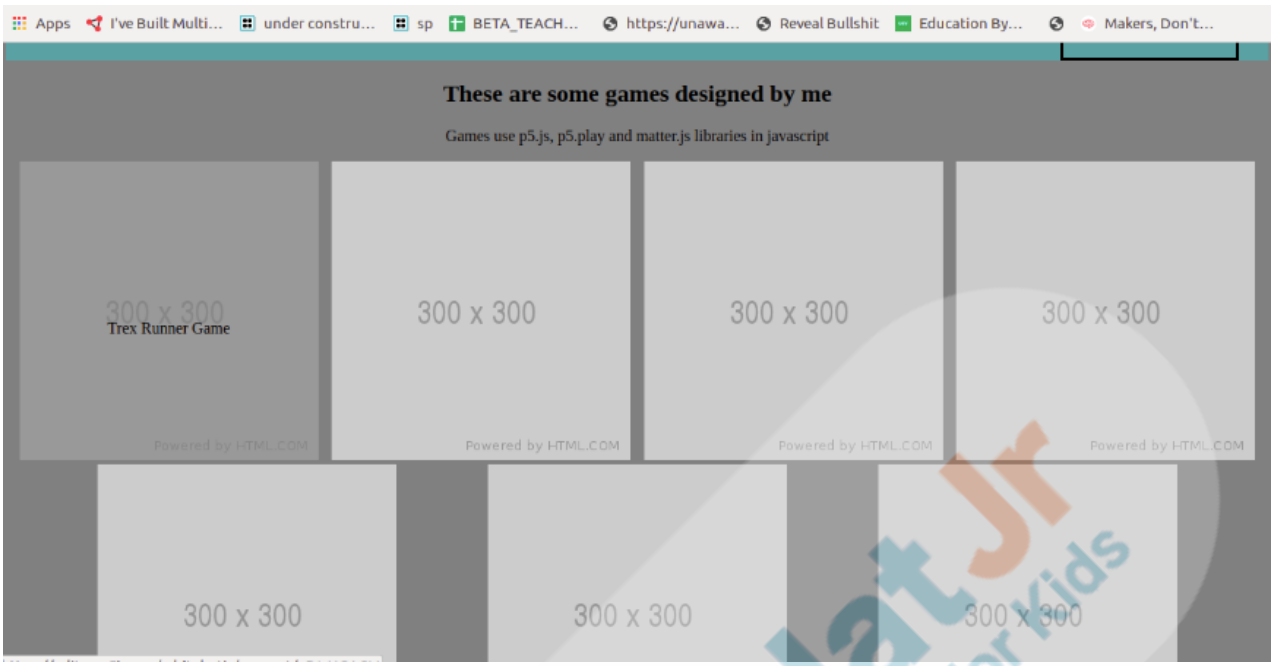

	Great job! Let's create a new github repository called “my portfolio”. You can push the code to this github repository and host it online. You can keep updating the page as you create more projects. You already know how to do this.	Student creates a new github repository, pushes the code there and hosts it.

Teacher Guides Student to Stop Screen Share

WRAP-UP SESSION - 5 Mins

Teacher starts slideshow **from slide 16 to slide 25**

Activity details	Solution/Guidelines
Run the presentation from slide 16 to slide 25 **Following are the wrap-up session deliverables:** ● **Explain the facts and trivias** ● **Next class challenge**	Guide the student to develop the project and

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• **Project for the day** • **Additional Activity**	share with us.
Quiz time - Click on in-class quiz	
Question	**Answer**
What is the difference between Margin and Padding? A. Margin property controls the space outside an element while the padding property controls the space inside an element. B. Margin property controls the space inside an element while the padding property controls the space outside an element. C. Both help to create space between the two elements. D. There is no difference between Margin and Padding.	**A**
Which property can be used to make an element transparent? A. Visibility . B. Opacity. C. Hover D. Transform	**B**
Which of the following allows us to customize the style of links? A. a:visit B. a:visited C. a:link D. a:hyperlink	**C**
End the quiz panel	
FEEDBACK **Encourage the student to make reflection notes in the markdown format.** **Complement the student for her/his effort in the class.** **Encourage the student to apply correct margin and padding effects in About Me page and experiment with advanced CSS effects.**	

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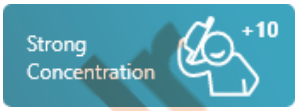
	So, now you know html, css and javascript. It's easy for us to now get started with React Native using which we will be creating mobile apps in the upcoming classes. You get a “hats off”. In fact, we are going to start with React Native right from next class!!	Make sure you have given at least 2 Hats Off during the class for: 
	Congratulations! You have achieved a new milestone. In your capstone challenge, you will have to implement the CSS properties and concepts learnt in classes so far to create the Origami website.	
Project Overview	***This Project will take only 30 mins to complete. Motivate students to try and finish it immediately after the class.** **DESIGN ORIGAMI WEBSITE - 2** **Goal of the Project:** In Class 52, you learned advanced CSS like using hexadecimal codes,mouse hover etc . In this project, you will be implementing these properties and concepts for the origami website. **Story:** Michelle has an origami studio and has made a website for it. She wants your help to make the website more	**Note: You can assign the project to the student in class itself by clicking on the Assign Project button which is available under the projects tab.** Students engage with the teacher over the project.

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	user-friendly by adding mouse hover, hexadecimal color codes. I am very excited to see your project solution and I know you both will do really well. Bye Bye!	
Teacher Clicks		
Additional Activities	Help the student add more styling to his/her page - both the portfolio page and the about me page.	The student writes code to add more styling to their portfolio website.

Activity	Activity Name	Links
Teacher Activity 1	Code from last class	https://github.com/whitehatjr/StudentPortfolio1.0
Teacher Activity 2	Reference link	https://github.com/whitehatjr/Portfolio2.0
Student Activity 1	Code from last class	https://github.com/whitehatjr/StudentPortfolio1.0
Project Solution Link	Origami Website Design-2	https://github.com/priyapandey2020/hnjsjdsbjvsdgvjsbjsvfj1655
Teacher Reference visual aid link	Visual aid link	https://curriculum.whitehatjr.com/Visual+Project+Asset/PRO_VD/BJFC_PRO_V3_C52_withcues.html

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Teacher Reference In-class quiz	In-class quiz	https://s3-whjr-curriculum-uploads.whjr.online/f4fa8b9a-abbd-4f9a-9134-c08b7074d3cc.pdf

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