




Topic	CSS and Flexbox	
Class Description	Students learn how to use flexbox to design the layout of a website. Students also learn the importance of keeping content and styling of a website separate. Students use a separate stylesheet for adding design to the portfolio website which they are creating.	
Class	C50	
Class time	45 mins	
Goal	<ul style="list-style-type: none"> • Create a separate CSS style sheet for the portfolio website. • Use <div> blocks and flexbox to give a layout to the website. • Use css selectors to add style elements to the website. 	
Resources Required	<ul style="list-style-type: none"> • Teacher Resources <ul style="list-style-type: none"> ○ Laptop with internet connectivity ○ Earphones with mic ○ Notebook and pen • Student Resources <ul style="list-style-type: none"> ○ Laptop with internet connectivity ○ Earphones with mic ○ Notebook and pen 	
Class structure	Warm Up Teacher-led Activity Student-led Activity Wrap up	5 mins 10 min 20 min 5 min
WARM-UP SESSION - 5 mins		
<div>  </div> <p>Teacher starts slideshow from slides 1 to 15</p> <p>Refer to speaker notes and follow the instructions on each slide.</p>		
Activity details		Solution/Guidelines

<p>Hi, how have you been? Are you excited to learn something new?</p> <p>Run the presentation from slide 1 to slide 3.</p> <p>The following are the warm-up session deliverables:</p> <ul style="list-style-type: none"> • Reconnect with previous class topics. • Warm-Up quiz session. 	<p>ESR: Varied Response.</p> <p>Click on the slide show tab and present the slides.</p>
<p align="center">QnA Session</p>	
Question	Answer
<p>Identify the correct option to add a css icon present in the images folder in your web page.</p>  <p>A. <code></code> B. <code></code> C. <code></code> D. <code></code></p>	<p>B</p>
<p>Identify the correct option to add a horizontal line across the width of the page .</p> <p>A. <code><hr width =100%></code> B. <code><hr width =1></code> C. <code><hr width :100%></code> D. <code><hr width =10></code></p>	<p>A</p>

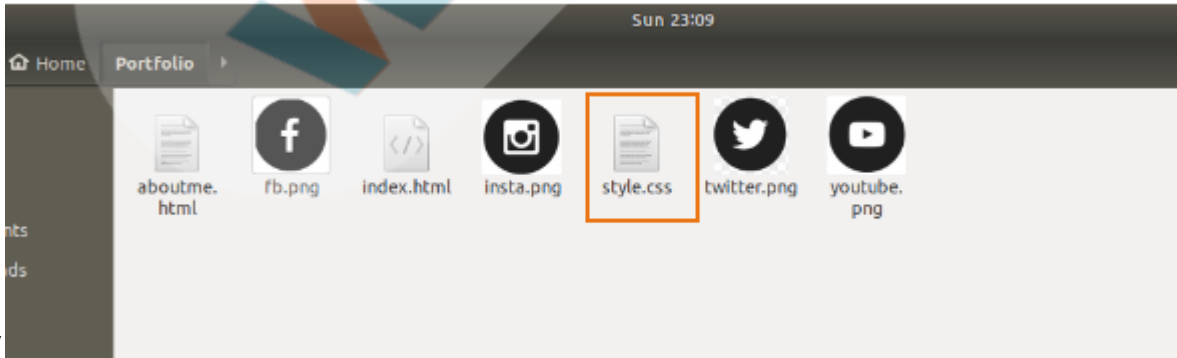
Continue the warm-up session		
Activity details		Solution/Guidelines
<p><i>Run the presentation from slide 4 to slide 15 to set the problem statement.</i></p> <p>The following are the warm-up session deliverables:</p> <ul style="list-style-type: none"> • Using flexboxes. • Importance of keeping style and content of a website separately. 		
<p>Teacher ends slideshow</p> 		
TEACHER-LED ACTIVITY - 15 mins		
Teacher Initiates Screen Share		
<p><u>CHALLENGE</u></p> <ul style="list-style-type: none"> • Arrange the layout of different HTML elements using flexbox. 		
<p>Step 2: Teacher-led Activity (15 min)</p>	<p>Teacher opens the activity from the last class or clones it from Github.</p> <p>Can you quickly review the code from the previous class?</p> <p>Review different html tags and what it is used for</p>	<p>The student reviews code from the previous class and explains it.</p> <p>Student explains the different html tags used in the document.</p>

```

index.html x
home > rajeev > Portfolio > index.html > html > body
1 <!DOCTYPE HTML>
2 <html>
3   <head>
4     <title>My Portfolio page</title>
5     <style>
6       h1 {
7         color: brown;
8       }
9
10      * {
11        border: solid;
12      }
13    </style>
14  </head>
15
16  <body>
17    <h1>Student Name</h1>
18    <a href="index.html">Projects</a>
19    <a href="aboutme.html">About Me</a>
20
21    <h2>These are some games designed by me</h2>
22    <p>Games use p5.js, p5.play and matter.js libraries in javascript</p>
23
24    <a href = "https://editor.p5js.org/whitehatjr/present/eP3rHCACM"></a>
25    <p>Trex Runner Game</p>
26
27    <a href = "#"></a>
28    <p>Name of game 2</p>
29
30    <a href = "#"></a>
31    <p>Name of game 3</p>

```

	<p>We used the <style> tag to add styling to the document.</p> <p>Typically, designers/developers try to create content and styling in two different documents so that content and design are independent of each other.</p> <p>This creates consistent design for different pages of a website easily. It also allows for a change in the design template of a website easily without affecting the content page.</p>	<p>Student listens.</p>
	<p>For example, look at these two- <u>Student Activity 1</u> and <u>Student Activity 2</u> - web designs. They contain exactly SAME content but completely different designs.</p> <p>Developers need to create two</p>	<p>Student reviews the content and design for the <u>Student Activity 1 and 2.</u></p>

	<p>different and separate styling pages to create these two different designs. We call such styling page “CSS (cascading style sheet).”</p> <p>We will be creating CSS for our portfolio.</p>	
	<p>Creating a CSS is quite simple.</p> <ol style="list-style-type: none"> 1. Create an empty file in the same folder and call it style.css (or any other name. The extension .css is important) This is going to be our style sheet. 2. Copy the style content (inside style tags) to this style sheet. We are going to add more styling to our document in this and the next class. 3. This stylesheet needs to be linked to the html file. We do it using the <link/> tag. <p>Teacher shows how to create a stylesheet.</p>	<p>Student follows the teacher and asks questions.</p>
V		

```

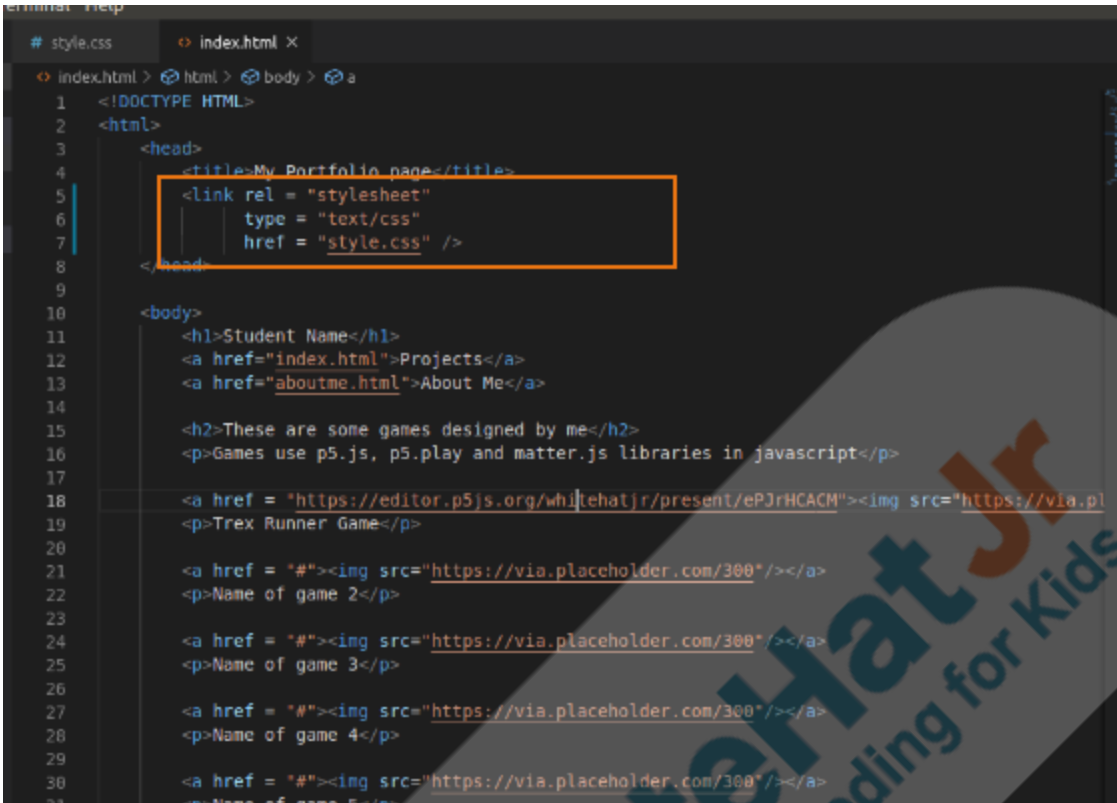
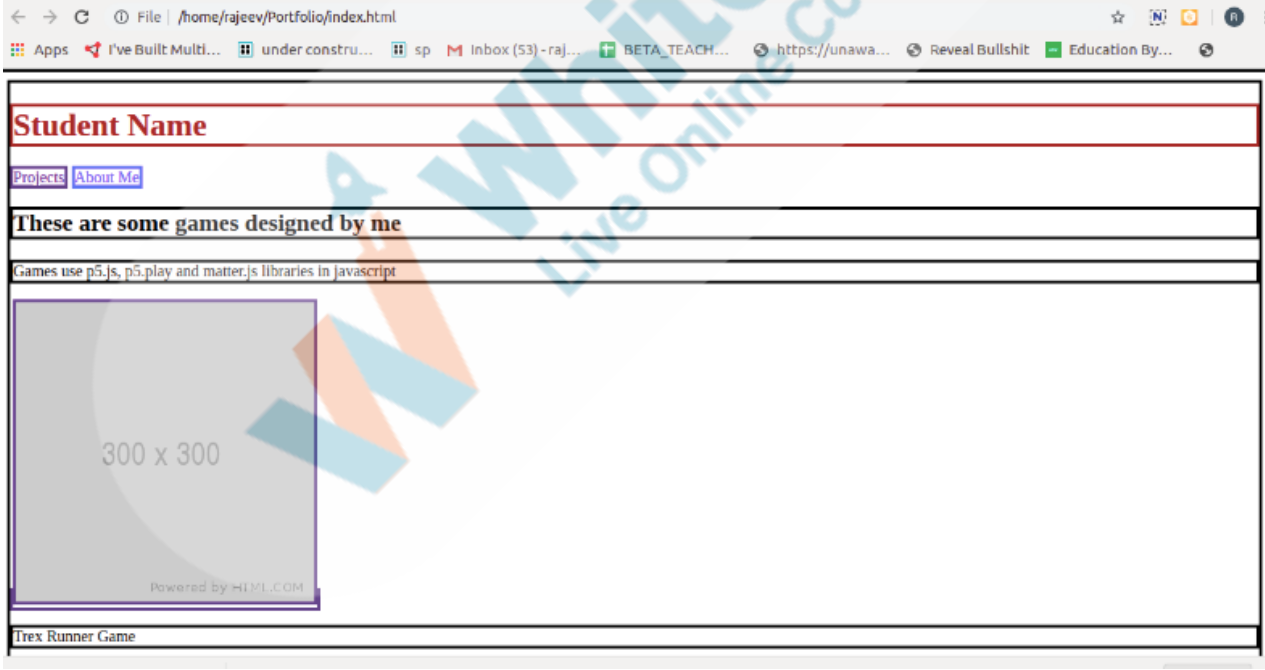
index.html x
index.html > ...
1  <!DOCTYPE HTML>
2  <html>
3    <head>
4      <title>My Portfolio page</title>
5      <style>
6        h1 {
7          color: brown;
8        }
9
10       * {
11         border: solid;
12       }
13     </style>
14   </head>
15
16   <body>
17     <h1>Student Name</h1>
18     <a href="index.html">Projects</a>
19     <a href="aboutme.html">About Me</a>
20
21     <h2>These are some games designed by me</h2>
22     <p>Games use p5.js, p5.play and matter.js libraries in javascript</p>
23
24     <a href = "https://editor.p5js.org/whitehatjr/present/ePJrHCACM"></a>
28     <p>Name of game 2</p>
29
30     <a href = "#"></a>
31     <p>Name of game 3</p>

```

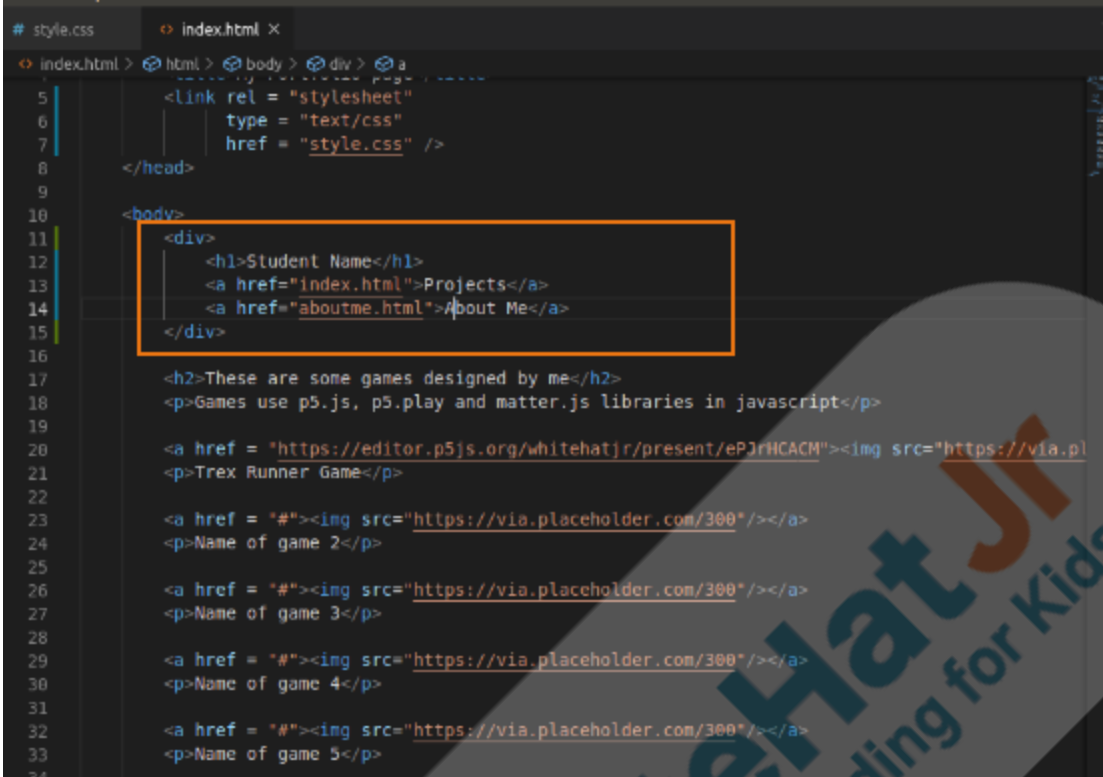
```

# style.css x
# style.css > *
1  h1 {
2    color: brown;
3  }
4
5  * {
6    border: solid;
7  }

```

		
	<p>Remember, in the last class we had used * symbol to create a box around all the html content. All these boxes are separate and independent of</p>	<p>Student listens.</p>

	<p>each other.</p> <p>We will be arranging these boxes to create a layout for our website.</p> <p>But before we go ahead and arrange these boxes, let's learn how to create a bigger box which can hold two smaller boxes. This will be useful for us when we arrange the boxes.</p>	
	<p>We create a big box using <code><div></div></code> tags. All the html content we want inside the big box can be put in these div blocks.</p> <p>For example, let's say we want the website header name (inside h1 tag) and the menu items inside one big box.</p> <p>Let's create a div block which holds them.</p> <p>Teacher creates a div block to hold the website header name and the menu hyperlinks.</p>	<p>Student observes and asks questions.</p>

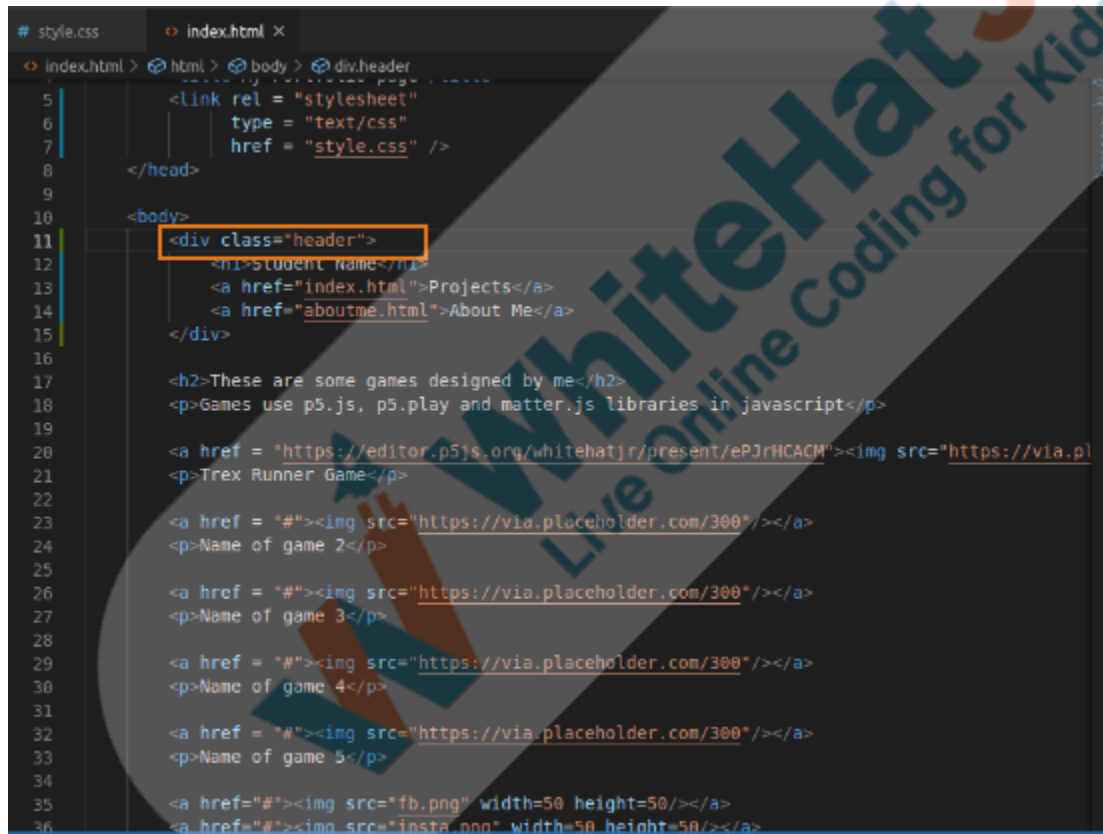
		
	<p>You can see a bigger box holding the header name and the menu items.</p> <p>We normally give a class name to</p>	<p>Student observes and asks questions.</p>

each div block. It helps when we are styling it.

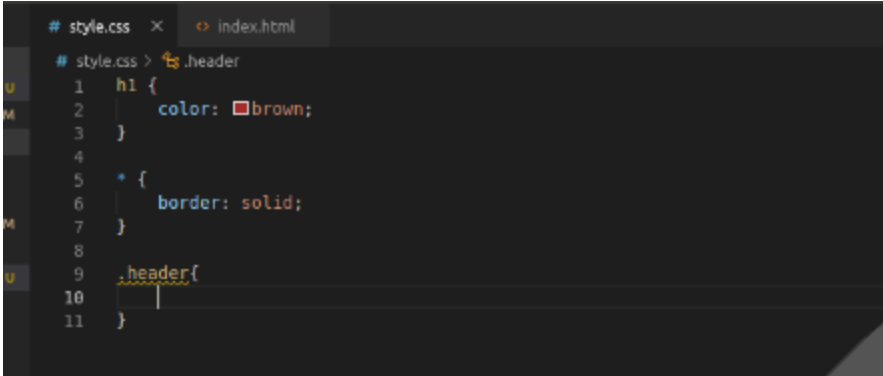

Let's call our div block "header" - since it will be at the top of our website.

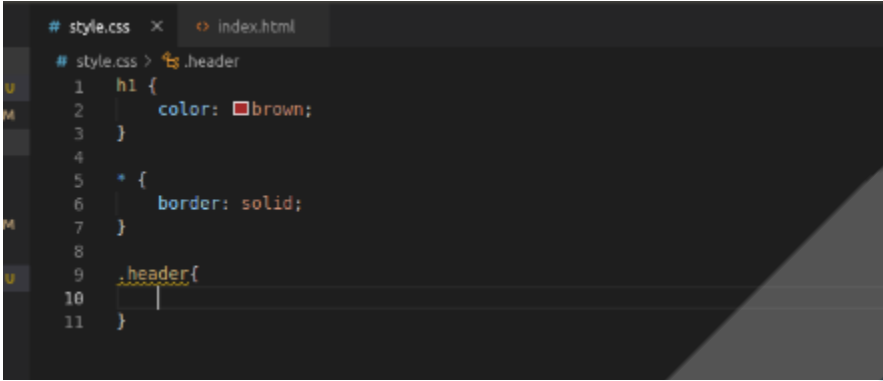
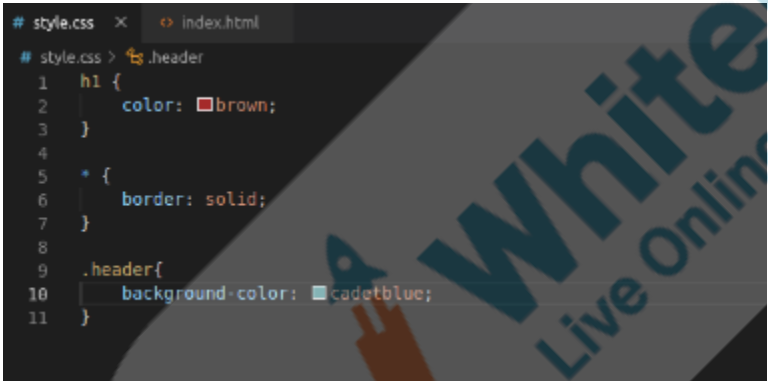
Class can be styled in stylesheet using .classname selector.

Here, header div class can be styled using .header selector.



```
# style.css
index.html X
index.html > html > body > div.header
5 <link rel = "stylesheet"
6 type = "text/css"
7 href = "style.css" />
8 </head>
9
10 <body>
11 <div class="header">
12 <h1>Student Name</h1>
13 <a href="index.html">Projects</a>
14 <a href="aboutme.html">About Me</a>
15 </div>
16
17 <h2>These are some games designed by me</h2>
18 <p>Games use p5.js, p5.play and matter.js libraries in javascript</p>
19
20 <a href = "https://editor.p5js.org/whitehatjr/present/ePjrhCACM"></a>
24 <p>Name of game 2</p>
25
26 <a href = "#"></a>
27 <p>Name of game 3</p>
28
29 <a href = "#"></a>
30 <p>Name of game 4</p>
31
32 <a href = "#"></a>
33 <p>Name of game 5</p>
34
35 <a href="#"></a>
36 <a href="#"></a>
```

		
	<p>Do you want to add boxes using div blocks on your own? And then I will help you lay them out using flexbox!</p> <p>Ready?</p>	<p>Yes!</p>
Teacher Stops Screen Share		
	<p>Now it's your turn. Please share your screen with me.</p>	
STUDENT-LED ACTIVITY - 15 mins		
<ul style="list-style-type: none"> • Ask Student to press ESC key to come back to panel • Guide Student to start Screen Share • Teacher gets into Fullscreen 		
<p style="text-align: center;">ACTIVITY</p> <ul style="list-style-type: none"> • Arrange the layout of the different HTML elements using flexbox. • Use css selectors to add some style to the document. 		
<div style="text-align: center;">  <p>Teacher starts slideshow for slide 16 to 18.</p> <p>Refer to speaker notes and follow the instructions on each slide.</p> </div>		
Step 3: Student-Led Activity (15 min)	<p>Guide the student to create and link a stylesheet on their own page.</p>	<p>The student creates a stylesheet and links it to his/her html page for the portfolio website.</p>

	We will be using ".header" as a css selector to add styling to this box.	The student adds a .header selector in the css stylesheet.
 <pre> # style.css x index.html # style.css > .header 1 h1 { 2 color: brown; 3 } 4 5 * { 6 border: solid; 7 } 8 9 .header{ 10 11 } </pre>		
	We can add a simple background to our 'header class div' to check if our styling works.	The student adds a light background-color to the header class div.
 <pre> # style.css x index.html # style.css > .header 1 h1 { 2 color: brown; 3 } 4 5 * { 6 border: solid; 7 } 8 9 .header{ 10 background-color: cadetblue; 11 } </pre>		
	<p>'header' class is the parent class containing h1 tag and another div class called 'menu'.</p> <p>We will use flexbox to arrange the boxes inside the header class.</p> <p>Let's use "display: flex" to tell the browser that we are going to be using the flexbox.</p>	The student adds "display: flex" property inside the '.header' selector.

```
# style.css x index.html
# style.css > .header
1 h1 {
2   color: brown;
3 }
4
5 * {
6   border: solid;
7 }
8
9 .header{
10  background-color: cadetblue;
11  display: flex;
12 }
```

Now, we can use "justify-content" property inside the parent div to align the inside boxes horizontally.

If you want the header name towards left and menu to the right of the web page, you could use "space-between"

The student adds "justify-content:space-between" inside the '.header' selector.

Student runs the code and sees the output.

```
# style.css x index.html
# style.css > .header
1 h1 {
2   color: brown;
3 }
4
5 * {
6   border: solid;
7 }
8
9 .header{
10  background-color: cadetblue;
11  display: flex;
12  justify-content: space-between;
13 }
```

<div> <div>Student Name</div> <div>Projects About Me</div> </div>	
<div>These are some games designed by me</div>	
<div>Games use p5.js, p5.play and matter.js libraries in javascript</div>	
<div> <div>300 x 300</div> <div>Powered by HTML.COM</div> </div>	
<div>Trex Runner Game</div>	
<div>style.css</div> <div>Show all</div>	
	<div> <p>Amazing, isn't it! How simple it is!</p> <p>Let's arrange the other boxes on the page to create a great layout for the portfolio website.</p> <p>Do not worry about the styling too much right now. We will focus more on styling in our next class.</p> <p>Let's create the layout for the grid of images for the games.</p> </div>
	<div> <p>The student creates a div called "grid" class to hold all the game images and their names.</p> <p>Each item in the grid contains one image and the name of the game is put inside a div named "item".</p> <p>Student adds css to layout the grid using flexbox properties by referencing Student Activity 3.</p> </div>

```

# style.css  index.html x
index.html > html > body > div.footer
23 <div class = "grid">
24   <div class="item">
25     <a href = "https://editor.p5js.org/whitehatjr/present/ePJrHCACM">
30     <a href = "#"></a>
31     <p>Name of game 2</p>
32   </div>
33
34   <div class="item">
35     <a href = "#"></a>
36     <p>Name of game 3</p>
37   </div>
38
39   <div class="item">
40     <a href = "#"></a>
41     <p>Name of game 4</p>
42   </div>
43
44   <div class="item">
45     <a href = "#"></a>
46     <p>Name of game 5</p>
47   </div>
48
49   <div class="item">
50     <a href = "#"></a>
51     <p>Name of game 6</p>

```

```

# style.css  index.html
# style.css > ...
1 h1 {
2   color: white;
3 }
4
5 /* * {
6   border: solid;
7 } */
8
9 .header{
10  background-color: cadetblue;
11  display: flex;
12  justify-content: space-between;
13 }
14
15
16 .grid{
17  display: flex;
18  flex-wrap: wrap;
19  justify-content: space-around;
20 }
21
22 .footer{
23  display: flex;
24  justify-content: flex-end;
25 }
26
27 p,h2{
28  text-align: center;
29 }

```


	Let's create a div to hold the social media icons.	<p>The student creates a div class with the name "footer"</p> <p>He/She uses the flexbox property to align the footer to the right.</p>
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```

# style.css  index.html X
index.html > html > body > div.footer
53
54     <div class="item">
55         <a href = "#"></a>
56         <p>Name of game 7</p>
57     </div>
58
59 </div>
60
61 <div class="footer">
62     <a href="#"></a>
63     <a href="#"></a>
64     <a href="#"></a>
65 </div>
66
67 </body>
68 </html>


```




```

# style.css  index.html
# style.css > ...
1  h1 {
2      color: white;
3  }
4
5  /* * {
6      border: solid;
7  } */
8
9  .header{
10     background-color: cadetblue;
11     display: flex;
12     justify-content: space-between;
13 }
14
15
16 .grid{
17     display: flex;
18     flex-wrap: wrap;
19     justify-content: space-evenly;
20 }
21
22 .footer{
23     display: flex;
24     justify-content: flex-end;
25 }
26
27 p,h2{
28     text-align: center;
29 }

```

	<p>See how easy it is to create a simple layout for a website using flexbox. Without adding much of styling, we could create a simple and beautiful portfolio webpage!</p>	<p>The student is excited about the prospect.</p>

	In the next class, we will add more styling to the web page to make it look super professional.	
Teacher Guides Student to Stop Screen Share		
<u>WRAP-UP SESSION - 5 Mins</u>		
<div>  </div> Teacher starts slideshow from slide 19 to slide 28		
Activity details		Solution/Guidelines
Run the presentation from slide 19 to slide 28 Following are the wrap-up session deliverables: <ul style="list-style-type: none"> ● Explain the facts and trivias ● Next class challenge ● Project for the day ● Additional Activity 		Guide the student to develop the project and share with us.
Quiz time - Click on in-class quiz		
Question		Answer
Which of the following properties is used to mention about using flexbox? A. display: flex B. <flexbox> C. display: flexbox D. flex:display		A
To align the inner boxes horizontally inside the parent div, which of the following properties is used? A. justify-content:space-between B. align-self:space-between C. justify-content:space-evenly D. align-items:space-between		A

<p>Why do we create a separate css file to add styling?</p> <p>A. On changing the styling, it should be reflected in the html content page.</p> <p>B. Without creating a separate css file, it will show an error.</p> <p>C. So that content and design are independent of each other.</p> <p>D. As we can not add styling in the html page directly.</p>	<p>C</p>
<p>End the quiz panel</p>	
<p><u>FEEDBACK</u></p> <ul style="list-style-type: none"> • 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 create layout and styling for the "About Me" page on the website. 	
	<p>You get a "hats off."</p> <p>Amazing! Super cool.</p> <p>I am looking forward to the next class.</p> <div> <p>Make sure you have given at least 2 Hats Off during the class for:</p> <div> <div>Creatively Solved Activities  +10</div> <div>Great Question  +10</div> <div>Strong Concentration  +10</div> </div> </div>
<p>Project Overview</p>	<p>*This Project will take only 30 mins to complete. Motivate students to try and finish it immediately after the class.</p> <p>Tutorial Hub- 2</p> <p>Goal of the Project:</p> <p>In Class 50, you have learnt to use the CSS and flexbox.</p> <p>In this project, you will have to use different CSS properties and flexbox</p> <p>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.</p> <p>Students engage with the teacher over the project.</p>

	<p>properties to make the website look more aesthetic and professional.</p> <p>Story:</p> <p>Shourya is learning to code for creating websites. He always wanted to show his creativity online. So he has decided to make a Tutorial Hub website for himself.</p> <p>The basic structure of the website is already ready. Now let's make it look better by adding CSS and Flexbox properties.</p> <p>I am very excited to see your project solution and I know you both will do really well.</p> <p>Bye Bye!</p>	
<div>Teacher Clicks</div> <div>✕ End Class</div>		
Additional Activities	<p>Can you create the layout for the "about me" page using flexbox and flexbox properties?</p> <p>You can use the same stylesheet but you will have to link it to the "about me" page.</p>	<p>The student links the style.css to "about me" html page.</p> <p>He/She designs the layout for the about me page.</p>
	<p>Encourage the student to write reflection notes in their reflection journal using markdown.</p> <p>Use these as guiding questions:</p> <ul style="list-style-type: none"> • What happened today? <ul style="list-style-type: none"> - Describe what happened - Code I wrote 	<p>The student uses the markdown editor to write her/his reflection in a reflection journal.</p>

	<ul style="list-style-type: none"> • How did I feel after the class? • What have I learned about programming and developing games? • What aspects of the class helped me? What did I find difficult? 	
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Activity	Activity Name	Links
Teacher Activity 1	Previous Class Code	https://github.com/whitehatjr/portfolio
Teacher Activity 2	Reference Code	https://github.com/whitehatjr/StudentPortfolio1.0
Student Activity 1	Zen Garden 1	http://www.csszengarden.com/221/
Student Activity 2	Zen Garden 2	http://www.csszengarden.com/219/
Student Activity 3	Flexbox Reference	https://css-tricks.com/snippets/css/a-guide-to-flexbox/
Project Solution Link	Tutorial Hub-2	https://priyapandey2020.github.io/jbkjhjdldidw8983738/
Teacher Reference visual aid link	Visual aid link	https://curriculum.whitehatjr.com/Visual+Project+Asset/PRO_VD/PRO_V3_C50_withcues.html

Teacher Reference In-class quiz	In-class quiz	https://s3-whjr-curriculum-uploads.whjr.online/5bf4275f-9edd-4f63-b096-9f1df104a73a.pdf
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