Advanced CSS with CSS3

Syllabus: CSS3 backgrounds, CSS flexbox, CSS3 borders, multicolumn layout, text effects, web fonts, 3D transformations, transitions, deploying HTML5 and CSS3 using bootstrap framework.

Practical:
1. Creation of Web pages using HTML5 and CSS3.
2. Demonstrate the use of Bootstrap Framework.

Questions:

2 Marks
1. Elaborate the concept of Multicolumn Layout.
2. Name the property used to apply multiple backgrounds in CSS3.
3. How can you perform text wrap using CSS3?
4. Elaborate CSS3 Borders and Multicolumn Layout.
5. Name the properties used to apply text effects in CSS3.
6. Write CSS3 code to add image in background of webpage.
7. In CSS, how do we use shorthand properties and why?
8. Is it possible to make a class selector for a particular element? How?

   Solution:Yes, we can make a class selector for a particular element. For example

   h2.className{ Color: #FFFF; }

5 Marks
1. Write a short note on the: Advanced features of CSS3
2. Consider a HTML Web page. You are supposed to create a multi-columns layout with CSS3 (just like in a newspaper with some headings, text and image(s) —diagraminatically represent any such layout).
3. Design a web page using concepts of HTML5, CSS3 and bootstrap framework.
4. How to deploy HTML5 and CSS3 using Bootstrap Framework?

10 Marks
1. Create a web page to implement the basic concept of HTML5 and CSS3 using Bootstrap Framework.
2. Write a code to import a style sheet into a document?

CSS3

CSS3 backgrounds

Introduction to CSS Backgrounds: https://www.w3schools.com/css/css_background.asp

Learn about the following CSS background properties: background-color, background-image, background-repeat, background-attachment, background-position

CSS3 Multiple Backgrounds: https://www.w3schools.com/css/css3_backgrounds.asp

CSS allows you to add multiple background images for an element, through the background-image property.

CSS flexbox

https://www.w3schools.com/css/css3_flexbox.asp

- Fexbox is used to create a responsive image gallery.

- Flexbox is used to create a responsive website, containing a flexible navigation bar and flexible content.

CSS3 borders

Introduction to CSS Borders: https://www.w3schools.com/css/css_border.asp

CSS3 Borders : https://www.w3schools.com/css/css3_border_images.asp

Multicolumn layout

https://www.w3schools.com/css/css3_multiple_columns.asp

The CSS multi-column layout allows easy definition of multiple columns of text - just like in newspapers.

Learn about the following multi-column properties:
- column-count
- column-gap
- column-rule-style, column-rule-width, column-rule-color, column-rule
- column-span
- column-width

For more information on how to create a multi-columns layout with CSS3 just like in a newspaper with some headings, text and images:

https://www.smashingmagazine.com/2019/01/css-multiple-column-layout-multicol/

https://vegibit.com/multi-column-layout-with-css/

Lets see a programming example to create a multi-columns layout with CSS3 just like in a newspaper:

```html
<!DOCTYPE html>
<html>
<head>
<style>
article {
  column-count: 3;
  column-gap: 40px;
  column-rule: 1px solid grey;
}
figcaption {
  text-align: center;
  font-style: italic;
  font-size: smaller;
}
</style>
</head>
<body>

<div class="container">
<article>
  <p>By way of precaution, when all was complete De Rozier made a few short captive excursions, the balloon being fastened to earth by a rope. But all proving satisfactory, he decided to hazard a "right away" trip on the 21st of November 1783, when he was also to be accompanied by an equally courageous fellow-countryman, the Marquis d'Arlandes. It would be difficult to conceive a more daring and perilous enterprise than these two brave Frenchmen set themselves. They were to venture, by an untried way, into unknown realms where no mortal had been before; they were to entrust their lives to a frail craft whose capabilities had never yet been tested, and at a giddy height they were to soar aloft with an open fire, which at any moment might set light to the inflammable balloon and hurl them to destruction. </p>

<p>Wild indeed was the applause of the crowd as the mighty craft, after due inflation, rose majestically into the sky, carrying with it its two brave voyagers--</p>
<blockquote><h4>the first that ever burst Into that silent sea;</h4></blockquote>
  <p>and with what anxiety was its course followed as, rising rapidly to a height of 3000 feet, it drifted away on an upper current which bore it right over the city of Paris. The travellers themselves experienced various excitements during their adventurous trip. They had constantly to stir the fire and feed it with fresh fuel; they had also with wet sponges continually to extinguish the flames when the light fabric from time to time ignited. At one period they feared descending into the river or on the house-tops, at another a sharp shock gave them the impression that their balloon had burst. But they came safely in the end through all perils and alarms, descending quietly, after a voyage of twenty-five minutes' duration, five miles from their starting-place.</p>

  <figure>
   <img width="100%" src="news.jpg" alt="3 people" >
   <figcaption text-align="center">The Authoress, her Father and Mr. Spencer making an ascent</figcaption>
  </figure>

  <p>The text and images in these examples has been taken from the book, "Balloons, Airships, and Flying Machines" by Gertrude Bacon as published on <a href="#">Project Gutenberg</a>.</p>

</article>
</div>
</body>
</html>
```

Output:

By way of precaution, when all was complete De Rozier made a few short captive excursions, the balloon being fastened to earth by a rope. But all proving satisfactory, he decided to hazard a "right away" trip on the 21st of November 1783, when he was also to be accompanied by an equally courageous fellow-countryman, the Marquis d'Arlandes. It would be difficult to conceive a more daring and perilous enterprise than these two brave Frenchmen set themselves. They were to venture, by an untried way, into unknown realms where no mortal had been before; they were to entrust their lives to a frail craft whose capabilities had never yet been tested, and at a giddy height they were to soar aloft with an open fire, which at any moment might set light to the inflammable balloon and hurl them to destruction.

Wild indeed was the applause of the crowd as the mighty craft, after due inflation, rose majestically into the sky, carrying with it its two brave voyagers--

**the first that ever burst
Into that silent sea;**

and with what anxiety was its course followed as, rising rapidly to a height of 3000 feet, it drifted away on an upper current which bore it right over the city of Paris. The travellers themselves experienced various excitements during their adventurous trip. They had constantly to stir the fire and feed it with fresh fuel; they had also with wet sponges continually to extinguish the flames when the light fabric from time to time ignited. At one period they feared descending into the river or on the house-tops, at another a sharp shock gave them the impression that their balloon had burst. But they came safely in the end through all perils and alarms, descending quietly, after a voyage of twenty-five minutes' duration, five miles from their starting-place.

The Authoress, her Father and Mr. Spencer making an ascent

The text and images in these examples has been taken from the book, "Balloons, Airships, and Flying Machines" by Gertrude Bacon as published on Project Gutenberg.

Text effects

https://www.w3schools.com/css/css3_text_effects.asp

learn about the following properties:

- text-overflow
- word-wrap
- word-break
- writing-mode

Web fonts

https://www.w3schools.com/css/css3_fonts.asp

3D transformations

2D Transforms: https://www.w3schools.com/css/css3_2dtransforms.asp

3D Transforms: https://www.w3schools.com/css/css3_3dtransforms.asp

Transitions

https://www.w3schools.com/css/css3_transitions.asp

Use Transition + Transformation for intresting examples such as:

https://www.w3schools.com/code/tryit.asp?filename=GE8A1DTCZ6YM

Deploying HTML5 and CSS3 using bootstrap framework

Learn about why to use Bootstrap:
    https://www.w3schools.com/bootstrap4/bootstrap_get_started.asp

Basics:

- **Containers: https://www.w3schools.com/bootstrap4/bootstrap_containers.asp**
- **Grid System:** https://www.w3schools.com/bootstrap4/bootstrap_grid_basic.asp
- **Images:** https://www.w3schools.com/bootstrap4/bootstrap_images.asp
- **Jumbotron:**   https://www.w3schools.com/bootstrap4/bootstrap_jumbotron.asp
- Other topics can be done according to the requirements and intrests.

Basic Bootstrap 4 Programming Example:

    https://www.w3schools.com/code/tryit.asp?filename=GE8LCVE94FNK

Explanation:

- Container class is used to provides a responsive **fixed width container**

- `.col-sm-` **(used for small devices - screen width equal to or greater than 576px)** On screens that are less than 576px wide, the columns will automatically stack on top of each other.

- Responsive images are used by adding an `.img-fluid` **class** to the tag. The image will then scale nicely to the parent element.

How to create a Responsive website using Html 5 , Css3 and Bootstrap

*Note: After learning the concepts of HTML5, CSS3 and Bootstrap lets desing webpages using these. This unit is the most intresting one where you can use your creative minds to design beautiful web pages. Other than that most of the questions are asked on designing web pages using concepts of HTML5, CSS3 and bootstrap framework.

HTML5 concepts: the Canvas, audio and video, forms, geolocation and GPS Services.

CSS3 concepts: CSS3 backgrounds, CSS flexbox, CSS3 borders, multicolumn layout, text effects, 3D transformations, transitions.

All these concepts can be used for the creation of Web pages using HTML5 and CSS3. And with bootstrap too.

Following is an example to create a Responsive website using Html 5 , Css3 and Bootstrap:

https://www.youtube.com/watch?v=wVvhqJBcmcg&list=PLEXedA_rYzg9E2cU_k6GCmLL4pjtpUBCc