# Department of Computing

**CS-344: Web Engineering**

**Class:** BESE-10AB

# Lab 05: Advanced CSS

**Date: October 14, 2021**

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# Lab 05: Advanced CSS

### Introduction:

Students have learned advanced concepts of CSS3, media queries, and responsive web design. In this lab, student will practically design a responsive web page using the concepts learned in the lectures.

### Lab Objectives:

The objective of this lab is to help students in designing a responsive web page using divisions, CSS3, and media queries. Students will apply different CSS styles and responsive web designing concepts they have learned in the lectures to design the layout of a web page.

### Tools:

Dreamweaver, notepad, browser.

### Helping Material:

Lecture slides.

W3Schools: <https://www.w3schools.com/html/html_responsive.asp>

<https://www.w3schools.com/Css/css_rwd_intro.asp>

Plenty of DIV examples: <http://www.mobilefish.com/tutorials/css/css_quickguide_div_examples_containers.html>

### Lab Task

### Task 1

In the previous labs, you have designed a website which is similar to BBC’s website using tables and divisions. Designing the layout of a website using tables and divisions alone is non-trivial due to limited flexibility, layout distortions, and an inability to response against the change in screen size (e.g. browser’s window resized). Professional websites like BBC are designed using HTML5 and CSS3. The responsiveness of the BBC website can be observed by resizing browser’s window. When carefully observing this layout, one can easily see that there are three different layouts which are adapted whenever the screen size is changed. The three layouts are: a) smart phone layout, b) tablet layout, and c) desktop layout.

**Lab Task:**

Design a responsive web page which has a layout similar to the BBC’s website. Your layout must be based on DIVs and CSS3. There must be three different layouts for the smart phone, tablet, and desktop. The layouts must be adapted automatically upon a relevant change in the screen size. An RWD example is already uploaded on LMS. You should use it as an example and extend it to design a responsive web page which is similar to BBC’s web site.

**Hints**

1. Feel free to browse BBC’s website and look into its page source to see how the layout is designed.
2. You can change the color scheme as per your choice.
3. BBC’s website has a menu (More) and a search bar. You can skip both in your layout.
4. You are encouraged to use most of the HTML tags and CSS styles you have learned so far or even new tags, which you can learn from W3Schools.
5. Make good use of HTML colors, fonts, font-family, font-sizes and other styles for the ***look and feel*** of the web page.
6. Make sure to test your website with different resolutions by changing the resolution of your screen.

**Important:** Upload your html and CSS files along with the solution.

|  |
| --- |
| Solution |
| Screenshot of web page  Zoom to see the screenshots clearly  Desktop mode:    Tablet mode:    Smart Phone mode:    HTML Code  <!DOCTYPE html>  <html lang="en">  <head>      <meta charset="UTF-8">      <meta http-equiv="X-UA-Compatible" content="IE=edge">      <meta name="viewport" content="width=device-width, initial-scale=1.0">      <link rel="stylesheet" href="https://pro.fontawesome.com/releases/v5.10.0/css/all.css"          integrity="sha384-AYmEC3Yw5cVb3ZcuHtOA93w35dYTsvhLPVnYs9eStHfGJvOvKxVfELGroGkvsg+p" crossorigin="anonymous" />      <link rel = "stylesheet" href = "lab5.css">      <title>Lab 5</title>  </head>  <body>      <div class="row navbar text-white">          <span class="logo col-4 col-m-6">              <span><b>E</b></span>              <span><b>M</b></span>              <span><b>A</b></span>              <span><b>A</b></span>              <span><b>N</b></span>          </span>          <span class = "col-2 col-m-3">              <span class="fas fa-user"></span> &nbsp; <b>Sign in</b>          </span>          <span class = "nav-item col-1"><b>Home</b></span>          <span class = "nav-item col-1"><b>News</b></span>          <span class = "nav-item col-1"><b>Sport</b></span>          <span class = "nav-item col-1"><b>Reel</b></span>          <span class = "nav-item col-1"><b>Travel</b></span>          <span class = "nav-item col-1"><b>Future</b></span>          <span class = "more col-m-3"><b>More &darr;</b></span>      </div>      <div class="row welcome gray-back heading">          <h3 class = "col-6 col-m-6">Welcome Home!</h3>          <h3 class="date col-6 col-m-6">2nd October 2021</h3>      </div>        <div class = "row images">          <div class = "rel col-6 col-m-12">              <img class = "dull" src="images/image1.jpg">              <span class = "top-text text-white">                  <p class = "text-white heading">Top News 1</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas.</p>                  <p class = "red">US & Canada</p>              </span>          </div>          <div class = "col-3 col-m-6">              <div class = "rel news">                  <img class = "dull" src="images/image2.jpg">                  <span class = "top-text text-white">                      <p class = "text-white sub-heading">Top News 2</p>                      <p class = "blue">Canada</p>                  </span>              </div>              <div class = "rel news">                  <img class = "dull" src="images/image3.jpg">                  <span class = "top-text text-white">                      <p class = "text-white sub-heading">Top News 3</p>                      <p class = "yellow">US</p>                  </span>              </div>          </div>          <div class = "col-3 col-m-6">              <div class = "rel news">                  <img class = "dull" src="images/image4.jpg">                  <span class = "top-text text-white">                      <p class = "text-white sub-heading">Top News 4</p>                      <p class = "blue">US</p>                  </span>              </div>              <div class = "rel news">                  <img class = "dull" src="images/image5.webp">                  <span class = "top-text text-white">                      <p class = "text-white sub-heading">Top News 5</p>                      <p class = "yellow">Canada</p>                  </span>              </div>          </div>      </div>      <div class = "row">          <h2 class = "red heading">News</h2>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image2.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">News 1</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Pakistan</p>              </span>          </div>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image3.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">News 2</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Canada</p>              </span>          </div>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image1.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">News 3</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Turkey</p>              </span>          </div>      </div>      <div class = "row">          <h2 class = "yellow heading">Sports</h2>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image4.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">Sport 1</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "yellow">Cricket</p>              </span>          </div>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image4.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">Sport 2</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "yellow">Golf</p>              </span>          </div>          <div class = "col-4 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image4.jpg">              <span class = "col-m-6 col-12">                  <p class = "sub-heading">Sport 3</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "yellow">Football</p>              </span>          </div>      </div>      <div class = "weather row">          <h2 class = "heading">PAKISTAN WEATHER</h2>          <div>              <span class = "far fa-cloud-drizzle"></span>              <span>                  <p><b>SAT</b><br>22&deg;</p>              </span>          </div>          <div>              <span class = "far fa-cloud-showers-heavy"></span>              <span>                  <p><b>SUN</b><br>19&deg;</p>              </span>          </div>          <div>              <span class = "far fa-cloud-sun"></span>              <span>                  <p><b>MON</b><br>25&deg;</p>              </span>          </div>          <div>              <span class = "far fa-sun"></span>              <span>                  <p><b>TUES</b><br>28&deg;</p>              </span>          </div>      </div>      <div class = "row">          <h2 class = "red heading">Asia News</h2>          <div class = "col-3 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image5.webp">              <span class = "col-m-6 col-12"></span>                  <p class = "heading">Asia News 1</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Asia</p>              </span>          </div>          <div class = "col-3 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image5.webp">              <span class = "col-m-6 col-12">                  <p class = "heading">Asia News 2</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Asia</p>              </span>          </div>          <div class = "col-3 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image5.webp">              <span class = "col-m-6 col-12">                  <p class = "heading">Asia News 3</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Asia</p>              </span>          </div>          <div class = "col-3 col-m-12 news">              <img class = "col-m-6 col-12" src="images/image5.webp">              <span class = "col-m-6 col-12">                  <p class = "heading">Asia News 4</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod.</p>                  <p class = "red">Asia</p>              </span>          </div>      </div>      <div class = "row gray-back editors-picks">          <h2 class = "blue heading">Editor's Picks</h2>          <div class = "col-8">              <div class = "col-12 rel">                  <img src = "images/image6.webp">                  <span class = "top-text text-white">                      <p class = "text-white heading">Editor's Pick</p>                      <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas.</p>                      <p class = "blue">Future</p>                  </span>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image2.jpg">                  <p class = "heading">Editors picks 1</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">divavel</p>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image3.jpg">                  <p class = "heading">Editors picks 2</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">Culture</p>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image2.jpg">                  <p class = "heading">Editors picks 3</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">Future</p>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image3.jpg">                  <p class = "heading">Editors picks 4</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">Arts</p>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image2.jpg">                  <p class = "heading">Editors picks 5</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">Sports</p>              </div>              <div class = "col-4 col-m-6 news">                  <img src="images/image3.jpg">                  <p class = "heading">Editors picks 6</p>                  <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas. Obcaecati sequi placeat quod. Amet, impedit pariatur eos accusantium voluptatem voluptatibus sequi eveniet alias.</p>                  <p class = "blue">World</p>              </div>          </div>          <div class = "latest-news text-white col-4">              <h3 class = "red-back sub-heading text-white">LATEST BUSINESS NEWS</h3>              <div>                  <p class = "sub-heading text-white"><span><b>1</b></span> &nbsp; This is Latest Business News 1</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>2</b></span> &nbsp; This is Latest Business News 2</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>3</b></span> &nbsp; This is Latest Business News 3</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>4</b></span> &nbsp; This is Latest Business News 4</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>5</b></span> &nbsp; This is Latest Business News 5</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>6</b></span> &nbsp; This is Latest Business News 6</p>              </div>              <div>                  <p class = "sub-heading text-white"><span><b>7</b></span> &nbsp; This is Latest Business News 7</p>              </div>          </div>      </div>      <div class = "row">          <div class = "col-m-6 col-6">              <h2 class = "heading">CELEBRATING BOND</h2>              <img src="images/image5.webp">              <p class = "yellow">Culture</p>              <p class = "heading">Film Review: No Time to Die: &starf; &starf; &starf; &starf; &starf;</p>          </div>          <div class = "col-m-6 col-6">              <h2 class = "heading">BUSINESS TECHNOLOGY</h2>              <img src="images/image5.webp">              <p class = "yellow">Business</p>              <p class = "heading">Energy from the fastest moving objects on Earth</p>          </div>      </div>      <div class = "row featured">          <h2 class = "blue heading">Featured Video</h2>          <div class = "text-white">              <div class = "col-12 rel">                  <img src = "images/image7.jpg">                  <span class = "top-text text-white">                      <p class = "text-white heading">Featured Video</p>                      <p>Lorem ipsum, dolor sit amet consectetur adipisicing elit. Doloremque expedita corrupti quidem odit, totam adipisci quas.</p>                      <p class = "blue">UK</p>                  </span>              </div>              <div class = "col-12">                  <span class = "text-white pad underline heading">Recommended</span>                  <span class = "text-white pad heading">Most Watched</span>                  <span class = "text-white pad heading">Latest</span>                  <hr>              </div>              <div class = "col-12">                  <div class = "col-4 col-m-6">                      <span class = "col-7"><img src = "images/image1.jpg"></span>                      <div class = "col-5">                          <p class = "text-white med">This is our Video 1</p>                          <p class = "text-white blue">Europe</p>                      </div>                  </div>                  <div class = "col-4 col-m-6">                      <span class = "col-7"><img src = "images/image2.jpg"></span>                      <div class = "col-5">                          <p class = "text-white med">This is our Video 2</p>                          <p class = "text-white blue">Europe</p>                      </div>                  </div>                  <div class = "col-4 x">                      <span class = "col-7"><img src = "images/image1.jpg"></span>                      <div class = "col-5">                          <p class = "text-white med">This is our Video 3</p>                          <p class = "text-white blue">Europe</p>                      </div>                  </div>              </div>          </div>      </div>      <div class = "row announcement">          <span class = "text-white red-back service col-4 col-m-5">BBC WORLD SERVICE</span>          <span class = "text-white dark-back newshour col-8 col-m-7"> &nbsp; <span class = "fad fa-volume-up"></span> &nbsp; On Air: Newshour</span>      </div>  </body>  </html>  Css code:  \* {      box-sizing: border-box;  }  .more{      display: inline-block;  }  .nav-item, .welcome, .news img, .x{      display: none;  }  .news span{      position: static;  }  .news p{      color: #000;  }  .news{      border-bottom: 1px solid #aaa;  }  /\* For mobile phones: \*/  [class\*="col-"] {      width: 100%;  }  @media only screen and (min-width: 600px) {      /\* For tablets: \*/      .col-m-1 {width: 8.33%;}      .col-m-2 {width: 16.66%;}      .col-m-3 {width: 25%;}      .col-m-4 {width: 33.33%;}      .col-m-5 {width: 41.66%;}      .col-m-6 {width: 50%;}      .col-m-7 {width: 58.33%;}      .col-m-8 {width: 66.66%;}      .col-m-9 {width: 75%;}      .col-m-10 {width: 83.33%;}      .col-m-11 {width: 91.66%;}      .col-m-12 {width: 100%;}        .welcome{          display: block;      }      .news img{          display: initial;      }      .news{          border: none;      }      .images .news span{          position: absolute;      }      .images .news p{          color: #fff;      }  }  @media only screen and (min-width: 768px) {      /\* For desktop: \*/      .col-1 {width: 8.33%;}      .col-2 {width: 16.66%;}      .col-3 {width: 25%;}      .col-4 {width: 33.33%;}      .col-5 {width: 41.66%;}      .col-6 {width: 50%;}      .col-7 {width: 58.33%;}      .col-8 {width: 66.66%;}      .col-9 {width: 75%;}      .col-10 {width: 83.33%;}      .col-11 {width: 91.66%;}      .col-12 {width: 100%;}      .more{          display: none;      }      .nav-item{          display: inline-block;      }      .x{          display: block;      }  }  [class\*="col-"] {      float: left;      padding: 5px;  }  .row::after {      content: "";      clear: both;      display: block;  }  body{      margin: 0;  }  .row{      padding: 0 8%;  }  .navbar {      background-color: #000;      height: 40px;  }  .navbar > span{      border-style: ridge;      border-color: #fff;      border-width: 0 1px 0 0;      text-align: center;      height: 100%;      padding-top: 10px;      background-color: #000;  }  .navbar > span:first-of-type{      padding-top: 7px;  }  .logo span {      background-color: #fff;      color: #000;      border: 1px solid #000;      display: inline-block;      width: 30px;      height: 27px;      font-size: 25px;  }  .welcome h3{      display: inline-block;      margin: 10px 0;  }  .date {      text-align: right;  }  .heading{      color: #454545;      font-weight: bold;      font-size: 1.5rem;  }  .sub-heading{      color: #454545;      font-weight: bold;      font-size: 1.3rem;  }  .red{      border-left: 4px solid #f00;      padding-left: 5px;  }  .yellow{      border-left: 4px solid #ff0;      padding-left: 5px;  }  .blue{      border-left: 4px solid #59bfff;      padding-left: 5px;  }  .gray-back{      background-color: #eee;  }  .dark-back{      background-color: #454545;  }  .red-back{      background-color: #f00;      font-weight: bold;      padding: 7px 10px;  }  .gray-back{      background-color: #eee;  }  .rel{      position: relative;  }  .top-text{      position: absolute;      bottom: 3%;      left: 3%;  }  .text-white{      color: white;  }  .dull{      filter: brightness(65%);  }  img{      height: auto;      width: 100%;  }  .images > div{      padding: 3px;  }  .weather h2{      margin-top: 20px;      margin-bottom: 0;  }  .weather div{      display: inline-block;      margin: 0 15px;  }  .weather p{      display: inline-block;  }  .editors-picks{      padding-top: 10px;  }  .latest-news p{      padding: 30px;      margin: 0;  }  .latest-news h3{      margin: 0;  }  .latest-news div:nth-of-type(2n){      background-color: #454545;  }  .latest-news div:nth-of-type(2n - 1){      background-color: #575757;  }  .latest-news span{      background-color: #f00;      border-radius: 50%;      display: inline-block;      width: 30px;      height: 30px;      text-align: center;  }  .latest-news span b{      vertical-align: middle;  }  .underline{      text-decoration: underline;  }  .pad{      padding: 10px 15px;  }  .featured div div{      background-color: #454545;  }  .med{      font-weight: bold;      font-size: 1.2rem;  }  .announcement{      margin: 30px 0;  }  .newshour{      padding: 7px 0;  } |

### Deliverables

Compile a single word document by filling in the solution part and submit this Word file with the html and CSS files on LMS. You must include your name, ID, and class on first page. The lab grading policy is as follows: The lab is graded between 0 to 10 marks. For some of the labs, students have to present their solutions in a viva session. In case of any problems with submissions on LMS, you should contact your lab engineer Ms. Ayesha Asif by email at [ayesha.asif@seecs.edu.pk](mailto:ayesha.asif@seecs.edu.pk)