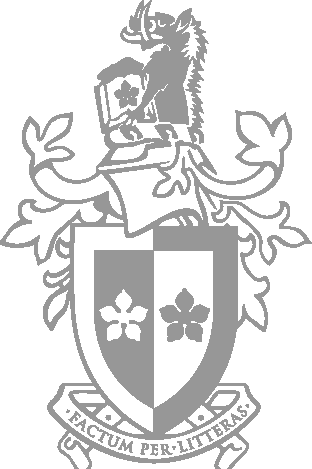
Faculty of Science, Engineering and Technology





**Interface Design and Development**

Pass Task 2: Grid Layouts

**Overview**

Now that we have layout and grid we can create a web page design following layout rule and implement the design using the Bootstrap framework. Div wrappers are a great way of encapsulating the content within a web page. In most cases the nested several levels of div are needed and must be ordered base on importance, you will find out how to achieve this. Last but not least, you will need to create your own templates that you will be using in your web projects and allow you to develop your own style, instead of using someone else’s design. This also allows you to quickly set up a website or web application, without recoding repetitive design codes.

**Purpose:** Learn how to following the layout rule given a design and implement it using the Bootstrap framework.

**Task:** Use the instructions on the following pages to create your own design and web page. Submit to Blackboard when complete.

**Time:** This task should be completed in your lab class and submitted for feedback before the start of week 4.

**Resources:**

* + - Lecture notes #2

***Submission Details***

You must **submit the following** files to Canvas:

* **Web page source code** (hellodesign.html, calculator.html, template01.html).
* **Answers to the question provided** (Refer to Item 1 in each questions below).
* **Screenshot of the webpage**

Make sure that your task has the following in your submission:

* The design must observe the layout rule (**row-column**).
* Code must be HTML5 standard and observe indentation.
* Code must have all the necessary **div wrappers**.
* Your webpage use the **Bootstrap framework appropriately**.



Component 1: Hello Design

**Instructions**

Following the layout rule allows you to properly implement a design for your web page. When you declare a wrapper, it must be based on content and not what you want the web page to look like. While the browser may render what you want to see on a specific device, it may not appear correctly on other devices and will not be accessible. Remember that the “mobile first” strategy determines what is most important based on content.

To explore this topic, we will create a web page that:

* starts with a wireframe design;
* observe the layout rule (row-column); and
* use the Bootstrap framework to implement the design appropriately.

1. Given the following wireframe design, identify the row and column of each box by numbering each box using the row.column numbering format in the answer sheet provided in the **resources** for this task.

**Tip:** The row.column numbering represents the order of importance and display, unless overridden. This is similar to section.sub-section.sub-section… numbering

**Note:** You need to number the boxes, as you need to submit this page to Canvas. This is part of the assessment task.

1. Open your **Brackets** and create a new file. Save it as **hellodesign.html** in your *Documents/cos30043/lab02* directory.
2. Start the hellodesign web page using the Bootstrap start code shown below.

<!DOCTYPE html>

<html>

<head>

<title>Template that uses Bootstrap</title>

<meta name="viewport" content="width=device-width, initialscale=1.0"/>

<!-- Bootstrap -->

<link href="css/bootstrap.min.css" rel="stylesheet" />

<!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media queries -->

<!-- WARNING: Respond.js doesn't work if you view the page via file:// -->

<!--[if lt IE 9]>

<script src="js/html5shiv.js"></script>

<script src="js/respond.min.js"></script>

<![endif]-->

</head>

<body>

<!—Your code here -->

<!-- jQuery – required for Bootstrap's JavaScript plugins) -->

<script src="js/jquery.min.js"></script>

<!– All Bootstrap plug-ins file -->

<script src="js/bootstrap.min.js"></script>

</body>

</html>

1. Write the HTML code using div tags with appropriate Bootstrap class attribute value to indicate row or column. The content of the innermost div tag will be a paragraph tag containing the row.column number value. For example, the first row is written as

<div class=”row”><p>1</p></div>

**Note:** Parts of the code will have nested div tags.

1. Remember to save the document and backup your work! Storing your work in multiple locations will help ensure that you do not lose anything if one of your computers fails, or you lose your USB Key.

**Note:** This is one of the tasks you need to submit to Canvas. Check the assessment criteria for the important aspect your tutor will check.

Now that the program is complete you can prepare it for your portfolio. This can be placed in your portfolio as evidence of what you have learnt.

Component 2: My Calculator Content

**Instructions**

The div wrapper is used to encapsulate some content. A web page must be designed such that a div represent a module that can be replaced with a different content enabling a consistent look and feel of the website.

Consider, for example, our calculator content. It will have a display, numeric key pad, arithmetic key pad that includes ‘=’, and special memory function for MR, MC, MR+ and MR–.These represent that 4 main groupings of the calculator.

To demonstrate this lets create a webpage that contains the calculator content. Draw your design and answer the questions in the answer sheet provided in the **resources** for this task.

1. The best way to try doing it yourself. To be able to design the calculator layout, you will need to know how to do it yourself.
   1. **Get the answer sheet**, using **Paint, Microsoft Word or any Drawing application** then draw the following:

The calculator contains 4 main parts namely: display, numeric key pad, arithmetic key pad that includes ‘=’, and special memory function for MR, MC, MR+ and MR–.

* 1. Think about the steps you took.

What will the calculator look like?

How many rows are there?

* 1. Once draw the calculator, number each box using the row.column numbering format.

1. Given the following wireframe design, place the calculator in box B.

A

B

C

**Note:** You only need to number the boxes in the calculator, as you need to submit this page to Canvas. This is part of the assessment task.

1. Open your **Brackets** and create a new file. Save it as **calculator.html** in your *Documents/cos30043/lab02* directory.
2. Start the calculator web page using the Bootstrap start code shown below.

<!DOCTYPE html>

<html>

<head>

<title>Template that uses Bootstrap</title>

<meta name="viewport" content="width=device-width, initialscale=1.0"/>

<!-- Bootstrap -->

<link href="css/bootstrap.min.css" rel="stylesheet" />

<!-- HTML5 Shim and Respond.js IE8 support of HTML5 elements and media queries -->

<!-- WARNING: Respond.js doesn't work if you view the page via file:// -->

<!--[if lt IE 9]>

<script src="js/html5shiv.js"></script>

<script src="js/respond.min.js"></script>

<![endif]-->

</head>

<body>

<div class=”container”>

<div class=”row”><p>A</p></div>

<div class=”row”>

<!—Your calculator code here -->

</div>

<div class=”row”><p>C</p></div>

</div>

<!-- jQuery – required for Bootstrap's JavaScript plugins) -->

<script src="js/jquery.min.js"></script>

<!– All Bootstrap plug-ins file -->

<script src="js/bootstrap.min.js"></script>

</body>

</html>

1. Write the HTML code using div tags with appropriate Bootstrap class attribute value to indicate row or column. The content of the innermost div tag will be a paragraph tag containing the calculator key value. The display will contain the value 0.
2. Remember to save the document and backup your work! Storing your work in multiple locations will help ensure that you do not lose anything if one of your computers fails, or you lose your USB Key.

**Note:** This is one of the tasks you need to submit to Canvas. Check the assessment criteria for the important aspect your tutor will check.

Now that the program is complete you can prepare it for your portfolio. This can be placed in your portfolio as evidence of what you have learnt.

Component 3: My Bootstrap Template Library

**Instructions**

In creating a template, we need to identify the purpose of the webpage and design it first on paper. You may also want to review existing designs or consult with actual users before you finalise and implement it.

To demonstrate this lets create a one-page corporate site template. **Draw your design and answer the questions in the answer sheet provided** in the **resources** for this task.

1. Get the answer sheet, using **Paint, Microsoft Word or any Drawing application**, then draw the following:

The one-page corporate site template will have

* 5 main parts namely: corporate banner, main product highlight, product features, company profile, and footer banner.
* There must be a minimum of 10 individual boxes in your design. The design in Question 1 has 14 boxes.
* Each box must have a purpose and must contain a sample data (text or image). No need to style them

1. Number each box in your design using the row.column numbering format.
2. Open your Brackets and create a new file. Save it as **template01.html** in your *Documents/cos30043/lab02* directory.
3. Implement your design using the Bootstrap start code.

**Note:** You can use HTML elements that you have learned before, such as image, links, and tables. Remember that these are to be used only as placeholders as this is a template. You are not required to style them using your own CSS or Bootstrap, this will be discussed in lecture 6.

1. Remember to save the document and backup your work! Storing your work in multiple locations will help ensure that you do not lose anything if one of your computers fails, or you lose your USB Key.

**Note:** This is one of the tasks you need to submit to Canvas. Check the assessment criteria for the important aspect your tutor will check.

Now that the program is complete you can prepare it for your portfolio. This can be placed in your portfolio as evidence of what you have learnt.

1. Login to Canvas and submit your code and answers to the question for this task.
2. Save the document and **backup** your work to multiple locations!