CHIANG MAI UNIVERSITY
Bachelor of Science (Software Engineering)
College of Arts, Media and Technology
2nd Semester / Academic Year 2019
SE 104 Web UI Design and Development
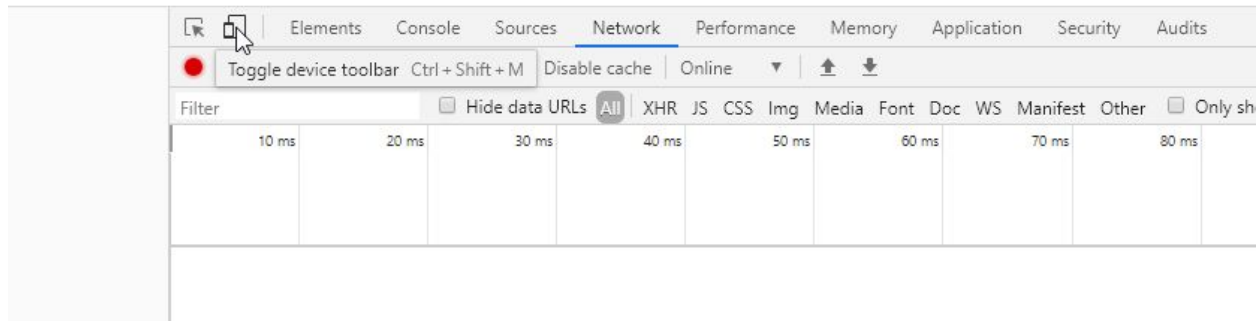
Bootstrap Layout
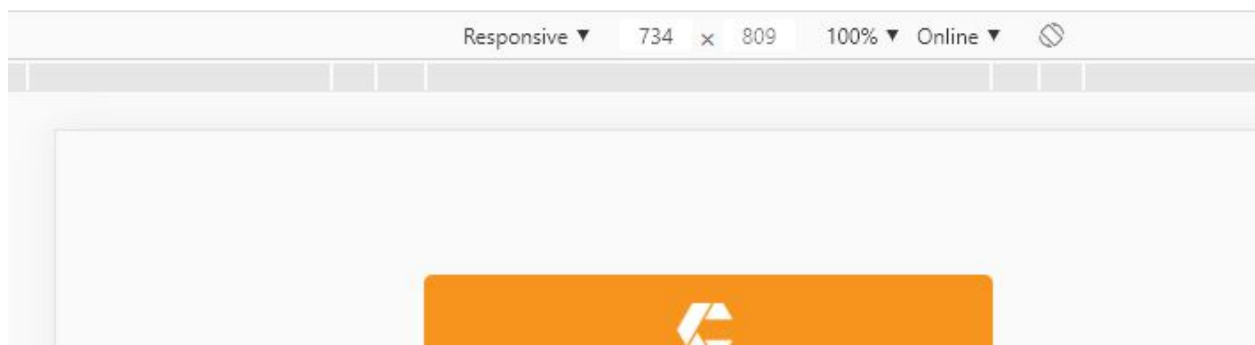Name …………………..……………. ID ……………………

Objective

This lab you will use the Bootstrap to manipulate the layout of each devices

Hint The symbol + and – in front of the source code is to show that you have to remove the source code and add the source code only. There is not a part of the source code. In addition, ignore the grey word in the source code as it is my IDE generation code to assist my coding experience.
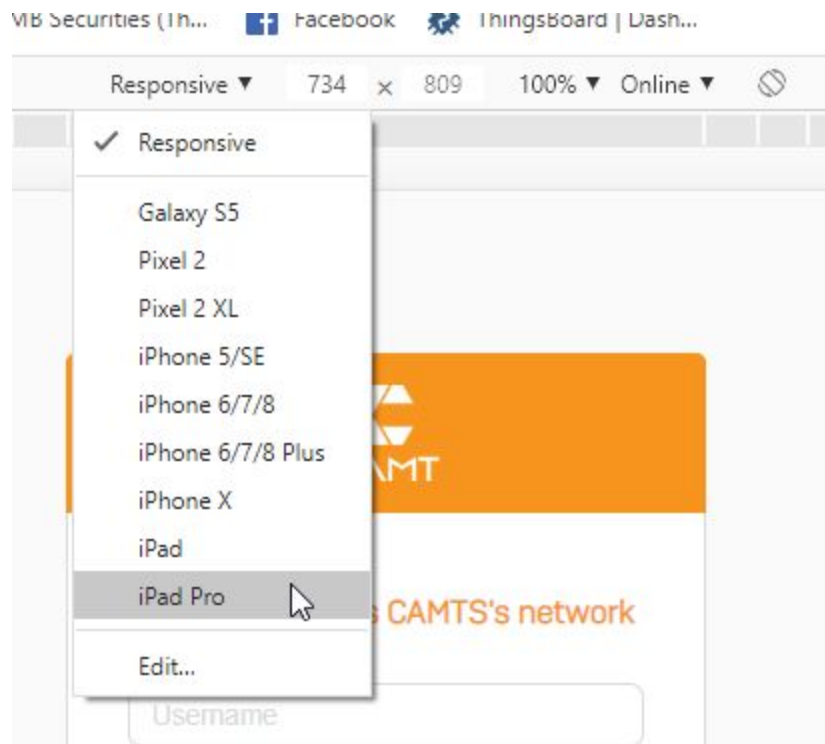
1. Setting up the device
   1.1. In Developer console, we can set the size of the device we want to see by selecting the device on the developer tools

   1.2. And then the size of the device is shown on the top of the display pane.

   1.3. Then we can select the divce or setting a size of the display channel

2. Using the multiple col definition
    2.1.   Start the project using the boostrap template in the html file, and create the css
            file to draw the border of each layout.
    Your css file


```
You, a few seconds ago | 1 author (You)
div[class*='col'] {
    border: 1px solid ■black;
}        You, a few seconds ago • start la
```

    2.2.   Your html file should contain this contents

```html
<div class="container">
  <div class="row">
    <div class="col-lg-1">1</div>
    <div class="col-lg-1">2</div>
    <div class="col-lg-1">3</div>
    <div class="col-lg-1">4</div>
    <div class="col-lg-1">5</div>
    <div class="col-lg-1">6</div>
    <div class="col-lg-1">7</div>
    <div class="col-lg-1">8</div>
    <div class="col-lg-1">9</div>
    <div class="col-lg-1">10</div>
    <div class="col-lg-1">11</div>
    <div class="col-lg-1">12</div>
  </div>
</div>
```

2.3.   Now with the Developer tools, select the screen width to 400,600,800,1000 px.

2.4.   Update your css file using the given css

```css
div[class*='col'] {
    border: 1px solid ■black;
}

div[class*='col-lg'] {
    background-color: □antiquewhite;
}

div[class*='col-md'] {
    background-color: □aqua;
}
```
You, 16 minutes ago • start lab 0

2.5.   And then update your html as given

```
<div class="container">
  <div class="row">
    <div class="col-md-6 col-lg-1">1</div>
    <div class="col-md-6 col-lg-1">2</div>
    <div class="col-lg-1">3</div>
    <div class="col-lg-1">4</div>
    <div class="col-lg-1">5</div>
    <div class="col-lg-1">6</div>
    <div class="col-lg-1">7</div>
    <div class="col-lg-1">8</div>
    <div class="col-lg-1">9</div>
    <div class="col-lg-1">10</div>
    <div class="col-lg-1">11</div>
    <div class="col-lg-1">12</div>
  </div>
</div>
```

2.6.   See the result,

2.7.   Then you can try to update the code like this

```
<div class="container">
  <div class="row">
    <div class="col-md-6 col-lg-1">1</div>
    <div class="col-md-6 col-lg-1">2</div>
    <div class="col-md-4 col-lg-1">3</div>
    <div class="col-md-4 col-lg-1">4</div>
    <div class="col-md-4 col-lg-1">5</div>
    <div class="col-lg-1">6</div>
    <div class="col-lg-1">7</div>
    <div class="col-lg-1">8</div>
    <div class="col-lg-1">9</div>
    <div class="col-lg-1">10</div>
    <div class="col-lg-1">11</div>
    <div class="col-lg-1">12</div>
  </div>
</div>
```

And then see the result

2.8.   Now with the Developer tools, select the screen width to 400,600,800,1000 px.

2.9.   Then update using the smallest one

```html
<div class="container">
  <div class="row">
    <div class="col-md-6 col-lg-1">1</div>
    <div class="col-md-6 col-lg-1">2</div>
    <div class="col-md-4 col-lg-1">3</div>
    <div class="col-md-4 col-lg-1">4</div>
    <div class="col-md-4 col-lg-1">5</div>
    <div class="col-lg-1">6</div>
    <div class="col-lg-1">7</div>
    <div class="col-lg-1">8</div>
    <div class="col-7 col-lg-1">9</div>
    <div class="col-3 col-lg-1">10</div>
    <div class="col-3 col-lg-1">11</div>
    <div class="col-lg-1">12</div>
  </div>
</div>
```

2.10.   You may notice that even in the medium size, the row is not correct. To fix the
medium size, you can try to do this

```html
<div class="container">
  <div class="row">
    <div class="col-md-6 col-lg-1">1</div>
    <div class="col-md-6 col-lg-1">2</div>
    <div class="col-md-4 col-lg-1">3</div>
    <div class="col-md-4 col-lg-1">4</div>
    <div class="col-md-4 col-lg-1">5</div>
    <div class="col-lg-1">6</div>
    <div class="col-lg-1">7</div>
    <div class="col-lg-1">8</div>
    <div class="col-7 col-md-12 col-lg-1">9</div>
    <div class="col-3 col-md-12 col-lg-1">10</div>
    <div class="col-3 col-md-12 col-lg-1">11</div>
    <div class="col-lg-1">12</div>
  </div>
</div>
```

This will force that in the medium size screen it will show the full row.

2.11.   Now create your html to show this given layout.

1	2	
	3	
	4	5

And show to the staff

3. Using the media selection component
    3.1. Open the https://getbootstrap.com/docs/4.0/components/navbar/#nav, see how to make the dropdown nav bar using the color theme as shown in the example. The menu structure should be
- Home
- About us
- Organization
- Student
    - Requesting for Recommendation form System
    - General Request Form
    - Suggestion
    - Activities Calendar for Students
- Admissions
- Scholarship
- KIC
- Contact us

The output should be as given

Try to resize the browser and see how its change

3.2.   The change is based on this class

```html
<div class="container">
  <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
    <a class="navbar-brand" href="#">CAMT SE</a>
    <button
      class="navbar-toggler"
      type="button"
      data-toggle="collapse"
      data-target="#navbarSupportedContent"
      aria-controls="navbarSupportedContent"
      aria-expanded="false"
      aria-label="Toggle navigation"
    >
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarSupportedContent">
      <ul class="navbar-nav mr-auto">
        <li class="nav-item active">
```

Let's the nav bar to expan when the screen size is lg

when click the button will show data in this div

Allow this content to be collapse

The div element which should be collabs is defined by the class and id. Now update you code to show any element as given
Hint you may have to move the location of the button to show as the image

3.3.   Create the css file and link to the current file, then try to add the border of your nav bar by wrapping the whole nav bar with div with the id name outbox.

```
<body>
    <div class="container">
    <div id="outbox">
        <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
            <a class="navbar-brand" href="#">CAMT SE</a>

            <span class="navbar-toggler-icon"></span>
          </button>

      </div>
    </div>
```
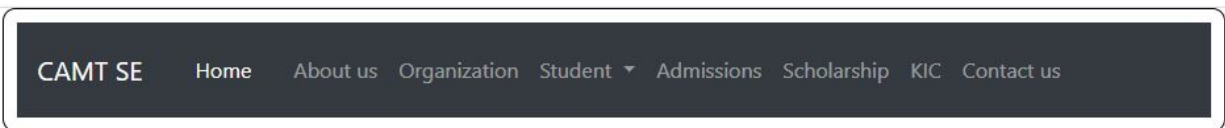
3.4. Then add the margin and the border in the css file as given

```
#outbox {
    border: 1px solid ■black;
    padding: 10px;
    border-radius: 10px;
}
```
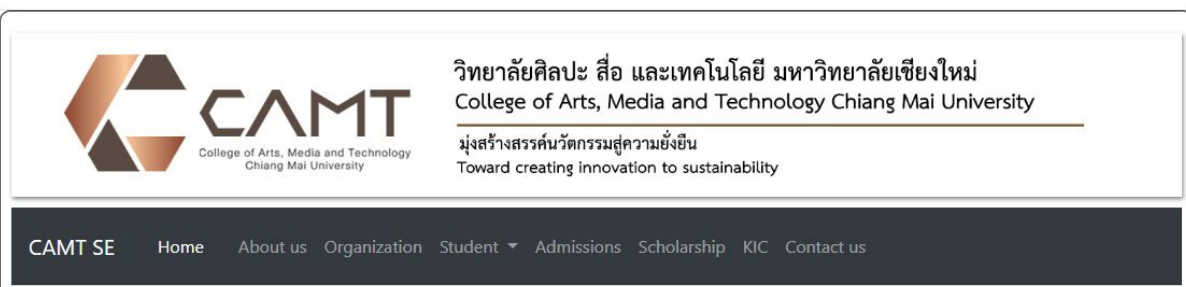
You should get this output

3.5. Make an image http://www.camt.cmu.ac.th/en/logo/camt_paper.png above the nav bar to be the header of the page, tie it with the class img-responsive (check online resource for further reference), use id="headimg" to modify its specific styles

3.6. In style css, add a margin to fill 10px to both top and bottom of the #headimg.

3.7. Add the max-height: 100%; and max-width: 100%; to the #headimg.
       You should get this output

Note that you can use box-shadow css to add the shining backgroud of the image

And show to the staffs

3.8. Let use http://www.camt.cmu.ac.th/th/logo/camt_paper.png to display on a high resolution screen, but use http://www.camt.cmu.ac.th/th/logo/camt_horizontal.jpg

for a screen with size equal to or less than the tablet's. This can be done by using media query.

3.9. Set the layout of your html file as given

```html
<div class="container">
  <div id="outbox">
    <div class="row">
      <div class="col-lg-12">
        <img
          id="headimg"
          class="img-responsive"
          src="http://www.camt.cmu.ac.th/th/logo/camt_paper.jpg"
        />
      </div>
    </div>

    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
```

3.10. At the end of the your css file

```css
@media screen and (max-width: 767px) {
    #headimg {
        content: url("http://www.camt.cmu.ac.th/th/logo/camt_horizontal.jpg");
    }
}

@media screen and (min-width: 767px) {
    #headimg {
        content: url("http://www.camt.cmu.ac.th/th/logo/camt_paper.jpg");
    }
}
```

Show the result by resizing the browser

3.11. We can also change any css style of and id using the media query, update the css file as given, and see the result when the browser side is changed

```css
@media screen and (max-width: 767px) {
    #headimg {
        content: url("http://www.camt.cmu.ac.th/th/logo/camt_horizontal.jpg");
    }
    #outbox {
        background-color: ■red;
    }
}

@media screen and (min-width: 767px) {
    #headimg {
        content: url("http://www.camt.cmu.ac.th/th/logo/camt_paper.jpg");
    }
    #outbox {
        background-color: ■black;
    }
}
```

And show to the staff

4. Final work
   4.1. Add a new element which will show the content below the nav bar as give

```html
<div class="container">
  <div class="row">
    <div class="col-md-3">.col-md-3</div>
    <div class="col-md-9">.col-md-9</div>
  </div>
</div>
```

   4.2. Set the id for the new content element you just have added, and then set the css of the new element as given

```css
margin-top: 15px;
margin-bottom: 15px;
padding: 10px;
```

   4.3. Try to use the sidebar lib provided by Bootstrap by replacing
   <div class="col-md-3">.col-md-3</div> with

```html
<div class="col-md-3 sidebar-offcanvas" id="sidebar">
  <div class="list-group">
    <a href="#" class="list-group-item">Philosopy</a>
    <a href="#" class="list-group-item">Purposes</a>
    <a href="#" class="list-group-item">Program and Study Plan</a>
    <a href="#" class="list-group-item">Application Documents</a>
  </div>
</div>
```

   This will produces

Philosopy

Purposes

Program and Study Plan

Application Documents

.col-md-9

4.4. Fill the content to the container on the right side of the page with

Philosophy

   Software Engineering is the applied science which aims for producing the quality software and software system with the international standard. The quality software increases the competitiveness of the international industry. Software engineers require several skills set such as mathematics and algorithm, software design and programming, software project management, and international communication in order to respond to the international requirement. The developed software should conform to the international standard such as CMMI, and ISO 15504

   The software engineering program is designed for students to study theoretically in lecture rooms and laboratories, and also develop the skill set using the co-operative study with the software industry. The students can apply their software engineering knowledge in the software entrepreneur to prepare themselves for the software industry. The graduated students aim to be competent software engineers or international software entrepreneurs.

4.5. Try to assign an id to the container wrapping the contents of the page. Then color its border as lightgray

Philosopy

Software Engineering is the applied science which aims for producing the quality software and software system with the international standard. The quality software increases the competitiveness of the international industry. Software engineers require the several skills set such as mathematic and algorithm, software design and programming, software project management, and international communication in order to respond to the international requirement. The developed software should conform to the international standard such as CMMI, and ISO 15504

The software engineering program is designed for students to study theoretically in lecture room and laboratory, and also develop the skill set using the co-operative study with the software industry. The students can apply their software engineering knowledge in the software entrepreneur to prepare themselves to the software industry. The graduated students are aim to be the competent software engineer or international software entrepreneur.

4.6. Finally, try to use the media query technique to remove the border of the content box when we display the page on a small screen, e.g., the browser will render the same page as shown on following figure

Then try to resize the browser to show the result.