UNIVERSITI MALAYSIA TERENGGANU

CSM3103 – FRONT-END PROGRAMMING

BACHELOR OF COMPUTER SCIENCE (MOBILE COMPUTING) WITH HONORS

LAB 5

SEMESTER II 2023/2024

Prepared for:

DR.RABIE MAMAT

Prepared by:

NURHASLINDA BINTI BAHARUDDIN

S67383

Lab 5

Task 1

a. Get the code from https://frend.odaje.biz/lab5/task1.html and evaluate and test the code.
   i. What is the id of button and input field
   ii. What happened when you clicked change button and why?

b. Your mission: when the button is clicked, all occurrences of the word Black to be changed to the text in the input field.

   a. Select the change button

   ```
   var button = $('#button_change');
   ```

   b. Setting a click listener for button

   ```
   $(button).click(function(){
       //your next code is here
   });
   ```

   c. Retrieving and storing the input value

   ```
   //select the input color
   var input_color = $('#input_color');

   //select the input value
   var input_value = $(input_color).val();
   ```

   d. Select all appropriates black text by class selector

   ```
   //select all appropriate black text recognise by class
   var element = $('.door_color');
   ```
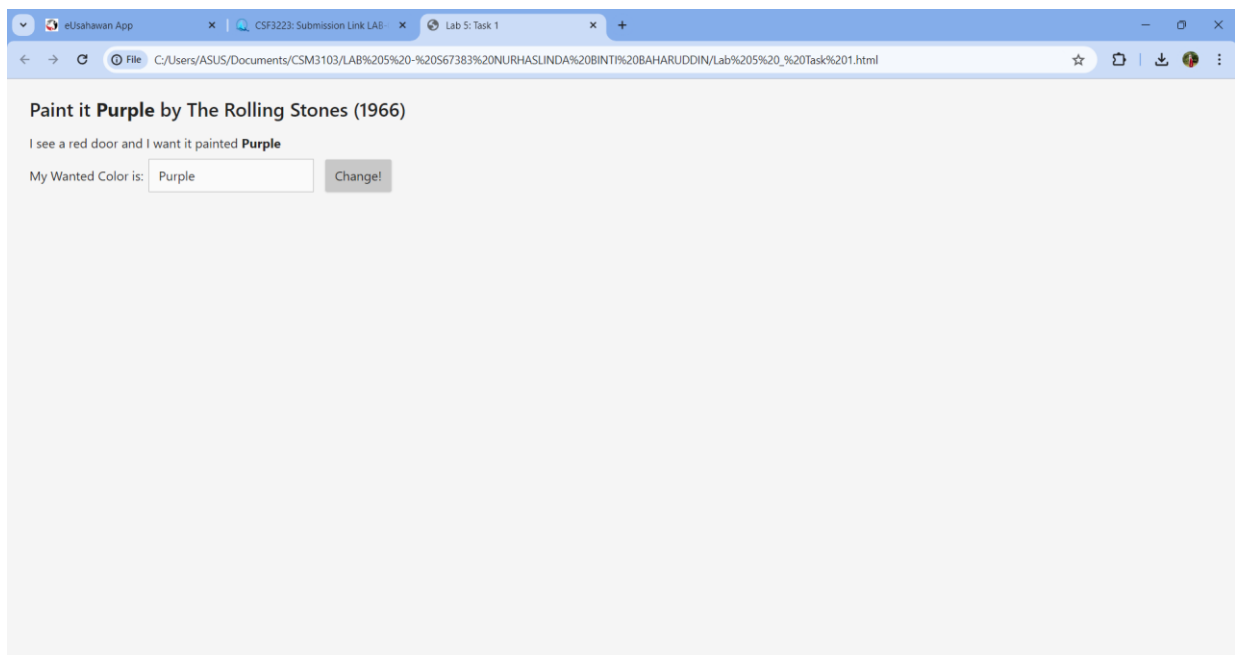
   e. Replace the text with the input value

   ```
   //changed the selected text color to inpiut value color
   $(element).html(input_value);
   ```

   f. Test and evaluate your code. Comment on the new behaviour of your code

   g. Basically, all those id and value in the code can be access directly without using any variables. **Rewrite the code by directly using the jQuery selector**

   h. **Rewrite the code: can refer to task 2 if in doubt**
      i. **Instead of input field, change it to dropdown which display available color understood by HTML (use select tag)**
      ii. **Retrieve the value from the select tag**
      iii. **Change the color of all appropriate text to selected color**

THE CODE :


```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <title>Lab 5: Task 1</title>
  <script src="https://code.jquery.com/jquery-3.1.1.min.js" integrity="sha256-hVVnYaiADRTO2PzUGmuLJr8BLUSjGIZsDYGmIJLv2b8=" crossorigin="anonymous"></script>
  <link rel="stylesheet" href="./Lab 5 _ Task 1 files/mini-default.css">
  <style>
    body { margin: 20px; }
    #color_change { border: 1px solid; }
    .door_color { font-weight: bold; }
  </style>
  <script>
  $(document).ready(function() {
    $('#button_change').click(function() {
      var input_color = $('#input_color').val();
      $('.door_color').html(input_color);
    });
  });
  </script>
</head>
<body>
  <h2>Paint it <span class="door_color">Black</span> by The Rolling Stones (1966)</h2>
  <p>I see a red door and I want it painted <span class="door_color">Black</span></p>
  <p>My Wanted Color is:
    <input id="input_color" value="Purple">
    <button id="button_change">Change!</button>
  </p>
</body>
</html>
```

THE OUTPUT:

Paint it **Purple** by The Rolling Stones (1966)

I see a red door and I want it painted **Purple**

My Wanted Color is: [Purple] [Change!]

Task 2

    a. Get the code from https://frend.odaje.biz/lab5/task2.html , and evaluate and test the code

        i. What id's that exist in the code above?

        ii. Open the file inside browser, what have you see in the browser?

        iii. Click any button, what happened? Why

    b. Your mission:

        i. Click on Toggle Colors button: Toggles the color between white and cardinal

        ii. Click on Toggle Rounded Borders: Toggles the appearance of a border on the boxes

        iii. Click add a new box: adds one new box to the container

    c. Implements the following to accomplished your mission

        i. Add outlined class to each <div>. Refer to <div> for box2 as an example. Save and open the file in browser

            i. What changes have you see?

        ii. Add a click function to button_toggle_color, and implementing change color process

```
//add button_toggle_color click function
  $('#button_toggle_colors').click(function(){
    //get box1
    var box1 = $('#box1');
    //check and changed background color of box1
    if($(box1).css('background-color')==colorTeal){
      //remove the color
      $(box1).css('background-color','');
    }else{
      //put back colorTeal as background
      $(box1).css('background-color',colorTeal);
    }
  });
```

        iii. Create an event listener for button_toggle_roundedges

        iv. Inside the function add the following code

```
$(".box").each(function(){
    if ($(this).hasClass('round-edge')){
        $(this).removeClass('round-edge');
    }else{
        $(this).addClass('round-edge');
    }
});
```

        v. Based on code in iv, can you modify a code in ii, so it change all box background and returned all to vanilla as well!

vi.   Create an event listener for button_add_box.

vii.   Inside the function put the following code

    i. Create new element using javascript

```
var new_box = document.createElement('div');
```

    ii. Get current number of element with class .box

```
var existingBoxes = $(".box").length;
```

    iii. With the current number of box create new id for new box

```
var nextBoxId = existingBoxes+1;
$(new_box).attr("id","box"+nextBoxId);
```

    iv. Add two classes (box and outlined) to new_box

```
$(new_box).addClass("box");
$(new_box).addClass("outlined");
```

    v. Finally, attached new box into box container

```
$("#boxes").append(new_box);
```

viii.   Test and evaluate your code

ix.   Modify the code above so that when button clicked, it only show one element which selected randomly .
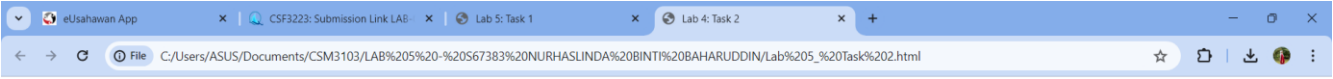
THE CODE:

```html
<!DOCTYPE html>
<!-- saved from url=(0039)https://frend.odaje.biz/lab5/task2.html -->
<html>
<head>
<meta charset="UTF-8">
<title>Lab 4: Task 2</title>
<link rel="stylesheet" href="./Lab_4__Task_2_files/bootstrap.min.css">
<style>
    #boxes { margin-top: 50px; float: left; width: 100%; }
    #toggles { float: left; width: 100%; margin-top: 10px; }
    #info { float: left; margin-top: 5px; }
    .box { width: 50px; height: 50px; float: left; }
    .outlined { border: 2px solid black; }
    .round-edge { border-radius: 15px; }
    .teal { background-color: teal; }
</style>
<script src="https://code.jquery.com/jquery-3.1.1.min.js" integrity="sha256-hVVnYaiADRTO2PzUGmuLJr8BLUSjGIZsDYGmIJLv2b8=" crossorigin="anonymous"></script>
<script>
var colorTeal = "rgb(57, 204, 204)";

$(document).ready(function(){

  $('#button_toggle_colors').click(function(){
    var box1 = $('#box1');
    if ($(box1).css('background-color') == colorTeal) {
      $(box1).css('background-color', '');
    } else {
      $(box1).css('background-color', colorTeal);
    }
    $(".box").each(function(){
      if ($(this).hasClass('round-edge')) {
        $(this).removeClass('round-edge');
      } else {
        $(this).addClass('round-edge');
      }
    });
```

```html
<html>
<head>
<script>
$(document).ready(function(){
  $('#button_toggle_colors').click(function(){
    });

  $('#button_add_box').click(function(){
    var new_box = document.createElement('div');
    var existingBoxes = $(".box").length;
    var nestBoxId = existingBoxes + 1;
    $(new_box).addClass("box");
    $(new_box).addClass("outlined");
    $("#boxes").append(new_box);
  });

});
</script>
</head>
<body>
<div class="container">
  <div id="boxes">
    <div id="box1" class="box outlined"></div>
    <div id="box2" class="box outlined"></div>
    <div id="box3" class="box outlined"></div>
  </div>

  <div id="toggles">
    <h2>Toggles</h2>
    <button class="btn" id="button_toggle_colors">Toggle Colors</button>
    <button class="btn" id="button_toggle_roundedges">Toggle Rounded Borders</button>
    <button class="btn" id="button_add_box">Add a New Box</button>
  </div>
</div>
</body>
</html>
```

THE OUTPUT:

Task 3

a. Get the code https://frend.odaje.biz/lab5/task3.html , and evaluate and test the
   code:
   i.   Determine the id's of each element
   ii.   Recognise any input element that associated with the form
   iii.   Your Task are:
           1. Add DatePicker
           2. Use selectable interaction
           3. Use Sortable widget
           4. Use the tooltip

b. Inserting the datepicker into a form
   i.   In the document ready function add this code

```
$('#date').datepicker();
```

       i. Can you set the date to limit the selectable date range to only
          include dates from the previous two weeks to the next two weeks.

c. Using selectable for enrolment type
   i.   Comment radiobutton input
   ii.   Add the following code

```
<ol id="selectable">
    <li class="ui-widget-content" title="taking 6.813">Undergraduate</li>
    <li class="ui-widget-content" title="taking 6.831">Graduate</li>
</ol>
```

   iii.   Add some css in style section

```css
#selectable .ui-selecting {
  background: #FECA40; }

#selectable .ui-selected {
  background: #F39814; color: white; }

#selectable li:before { content: "\2713 "; color: transparent; }

#selectable li.ui-selecting:before { content: "\2713 "; color: black; }

#selectable li.ui-selected:before { content: "\2713 "; color: white; }

#selectable { list-style-type: none; margin: 0; padding: 0;
  width: 150px; cursor: pointer; }

#selectable li {
  margin: 3px; padding: 0.4em;
  font-size: 1.0em; height: 16px; }
```

    iv.   And control the behaviour using jQuery selector

```javascript
$("#selectable").selectable();
```

    v.   How can we retrieve the value of the selected item?

d. Using sortable for the color input
    i.   Comment all input element that related to color selections
    ii.   Replace with the following code

```html
<ul id="sortable">
  <li class="ui-state-default">#ff0000</li>
  <li class="ui-state-default">#0000ff</li>
  <li class="ui-state-default">#ff00b3</li>
  <li class="ui-state-default">#ded447</li>
  <li class="ui-state-default">#125e18</li>
</ul>
```

    iii.   Adding a control to sort the list and disable the selection

```javascript
$("#sortable").sortable();
$("#sortable").disableSelection();
```

    iv.   Check your output, now you can drag any color to a new position
    v.   Add the following style to your code

```
#sortable {
    list-style-type: none;
    margin: 0;
    padding: 0;
    width: 150px;
}
#sortable li {
    margin: 0 3px 3px 3px;
    padding: 0.4em;
    padding-left: 1.5em;
    font-size: 1.0em;
    height: 12px;
}
```

      vi.   What do you think this CSS did? You can reverse the step to see the changes after and before the use of CSS

     vii.   Add the following span with class before color code in the <li> in (ii) above

```
<span class="ui-icon ui-icon-arrowthick-2-n-s"></span>
```
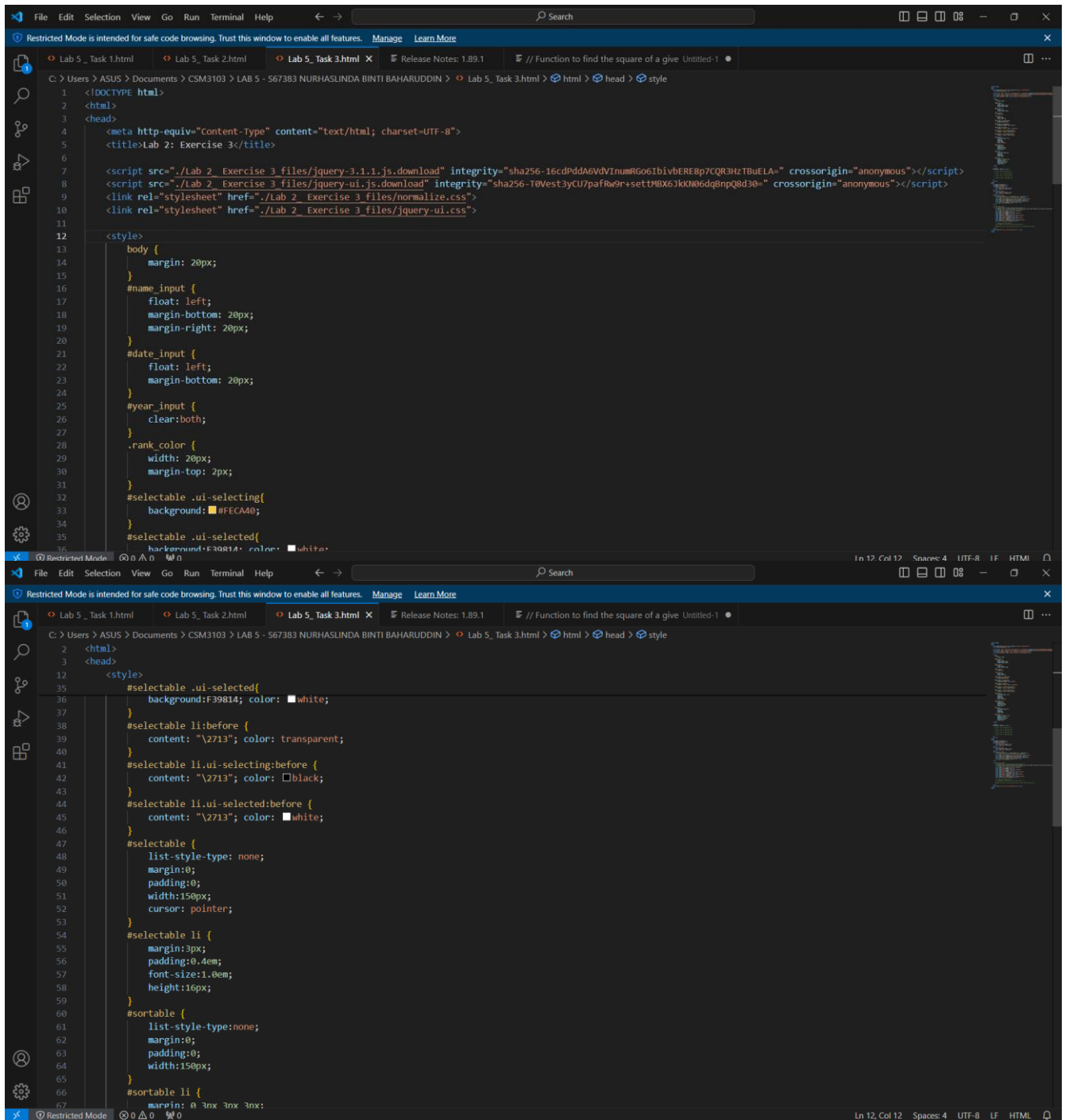
e. Adding a Tooltip
      i.   Add the following code inside document ready function

```
$(document).tooltip({
  items: '[title], [class]',
  position: { my: "left center", at: "right center" },
  content: function() {
    var element = $(this);
    if (element.is('[title]')){
      return element.attr('title');
    }
    if (element.is('[class]')){
      console.log('class', element);
      if (element.hasClass('ui-state-default')) {
        var text = element.text();
        return '<div class="color_swatch" style="background:' +
              text + '"></div>'
      }
    }
  }
});
```

     ii.   Add the following css

```
.color_swatch{ height:50px; width: 50px; }
```

THE CODE:

```html
<!DOCTYPE html>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Lab 2: Exercise 3</title>

    <script src="./Lab_2__Exercise_3_files/jquery-3.1.1.js.download" integrity="sha256-16cdPddA6VdVInumRGo6IbivbERE8p7CQR3HzTBuELA=" crossorigin="anonymous"></script>
    <script src="./Lab_2__Exercise_3_files/jquery-ui.js.download" integrity="sha256-T0Vest3yCU7pafRw9r+settMBX6JkKN06dqBnpQ8d30=" crossorigin="anonymous"></script>
    <link rel="stylesheet" href="./Lab_2__Exercise_3_files/normalize.css">
    <link rel="stylesheet" href="./Lab_2__Exercise_3_files/jquery-ui.css">

    <style>
        body {
            margin: 20px;
        }
        #name_input {
            float: left;
            margin-bottom: 20px;
            margin-right: 20px;
        }
        #date_input {
            float: left;
            margin-bottom: 20px;
        }
        #year_input {
            clear:both;
        }
        .rank_color {
            width: 20px;
            margin-top: 2px;
        }
        #selectable .ui-selecting{
            background: #FECA40;
        }
        #selectable .ui-selected{
            background:F39814; color: white;
```

```html
<html>
<head>
    <style>
        #selectable .ui-selected{
            background:F39814; color: white;
        }
        #selectable li:before {
            content: "\2713"; color: transparent;
        }
        #selectable li.ui-selecting:before {
            content: "\2713"; color: black;
        }
        #selectable li.ui-selected:before {
            content: "\2713"; color: white;
        }
        #selectable {
            list-style-type: none;
            margin:0;
            padding:0;
            width:150px;
            cursor: pointer;
        }
        #selectable li {
            margin:3px;
            padding:0.4em;
            font-size:1.0em;
            height:16px;
        }
        #sortable {
            list-style-type:none;
            margin:0;
            padding:0;
            width:150px;
        }
        #sortable li {
            margin: 0 3px 3px 3px;
```

Lab 5 _ Task 1.html   Lab 5_ Task 2.html   Lab 5_ Task 3.html ×   Release Notes: 1.89.1   // Function to find the square of a give Untitled-1

C: > Users > ASUS > Documents > CSM3103 > LAB 5 - S67383 NURHASLINDA BINTI BAHARUDDIN > Lab 5_ Task 3.html > html > head > style

```html
 2    <html>
 3    <head>
12        <style>
66            #sortable li {
67                margin: 0 3px 3px 3px;
68                padding: 0.4em;
69                padding-left:1.5em;
70                font-size:1.0em;
71                height:12px;
72            }
73        </style>
74
75        <script>
76        $(document).ready(function() {
77
78            /* Step 1: Your code goes here */
79
80            // Step 2: Your js code goes here
81
82            // Step 3: Your js code goes here
83
84            // Step 4: Your js code goes here
85
86        });
87        </script>
88    </head>
89    <body>
90        <h2>jQuery UI-Survey</h2>
91        <h3>General Information</h3>
92        <div id="name_input">
93            <label for="name">Name:</label>
94            <input type="text" id="name">
95        </div>
96        <div id="date_input">
97            <label for="date">Date:</label>
98            <input type="text" id="date">
```

Ln 12, Col 12   Spaces: 4   UTF-8   LF   HTML

Lab 5 _ Task 1.html   Lab 5_ Task 2.html   Lab 5_ Task 3.html ×   Release Notes: 1.89.1   // Function to find the square of a give Untitled-1

C: > Users > ASUS > Documents > CSM3103 > LAB 5 - S67383 NURHASLINDA BINTI BAHARUDDIN > Lab 5_ Task 3.html > html > head > style

```html
  2    <html>
 89    <body>
 96        <div id="date_input">
 98            <input type="text" id="date">
 99        </div>
100        <div id="year_input">
101            <h3>Are you enrolled as an undergraduate or a graduate?</h3>
102            <!-- Comment out this part of the form after Step 2 -->
103            <input type="radio" name="enroll_year" id="ugrad" value="ugrad">
104            <label for="ugrad">Undergraduate (taking 6.813)</label><br>
105            <input type="radio" name="enroll_year" id="grad" value="grad">
106            <label for="grad">Graduate (taking 6.831)</label>
107            <!-- Step 2: Your HTML here -->
108        </div>
109
110        <div id="color_input">
111            <!-- Comment out instruction when you finish step 3 -->
112            <h3>Rank the colors listed from your most favorite (1) to your least favorite (5). Be sure to only use each ranking once.</h3>
113            <!-- Comment this part of the form out after step 3 -->
114            <input type="text" class="rank_color" id="red">
115            <label for="red">#ff0000</label><br>
116            <input type="text" class="rank_color" id="blue">
117            <label for="blue">#0000ff</label><br>
118            <input type="text" class="rank_color" id="hot_pink">
119            <label for="hot_pink">#ff00b3</label><br>
120            <input type="text" class="rank_color" id="mustard">
121            <label for="mustard">#ded447</label><br>
122            <input type="text" class="rank_color" id="dark_green">
123            <label for="dark_green">#125e18</label><br>
124
125            <!-- Step 3: Your HTML here -->
126            <!-- Uncomment instruction when you finish step 3 -->
127            <!--
128            <h3>Rank the colors from your most favorite to your least favorite:</h3>
129            -->
130        </div>
```

Ln 12, Col 12   Spaces: 4   UTF-8   LF   HTML

Restricted Mode is intended for safe code browsing. Trust this window to enable all features. Manage Learn More

Lab 5 _ Task 1.html   Lab 5_ Task 2.html   Lab 5_ Task 3.html ×   Release Notes: 1.89.1   // Function to find the square of a give Untitled-1 ●

C: > Users > ASUS > Documents > CSM3103 > LAB 5 - S67383 NURHASLINDA BINTI BAHARUDDIN > Lab 5_ Task 3.html > html > head > style

```html
  2    <html>
 89    <body>
110        <div id="color_input">

124
125            <!-- Step 3: Your HTML here -->
126            <!-- Uncomment instruction when you finish step 3 -->
127            <!--
128            <h3>Rank the colors from your most favorite to your least favorite:</h3>
129            -->
130        </div>
131        <span class="ui-icon ui-icon-arrowthick-2-n-s"></span>
132    </body>
133    </html>
134
```

Ln 12, Col 12   Spaces: 4   UTF-8   LF   HTML

THE OUTPUT:

eUsahawan App   CSF3223: Submission Link LAB   Lab 5: Task 1   Lab 4: Task 2   Lab 2: Exercise 3

File | C:/Users/ASUS/Documents/CSM3103/LAB%205%20-%20S67383%20NURHASLINDA%20BINTI%20BAHARUDDIN/Lab%205_%20Task%203.html

jQuery UI-Survey

General Information

Name: [   ]   Date: [   ]

Are you enrolled as an undergraduate or a graduate?

○ Undergraduate (taking 6.813)
○ Graduate (taking 6.831)

Rank the colors listed from your most favorite (1) to your least favorite (5). Be sure to only use each ranking once.

[ ] #ff0000
[ ] #0000ff
[ ] #ff00b3
[ ] #ded447
[ ] #125e18

Task 4
a. Get the code from https://frend.odaje.biz/lab5/task3.html , and evaluate and test the code.

b. Getting the context of the canvas

    a. Add the following code:
```
var canvas = document.getElementById("myCanvas");
var ctxt = canvas.getContext('2d');
```
        i. What is the meaning of context in this case?

c. Drawing a triangle to canvas
    a. Setup the fillStyle, strokeStyle and linewidth.
```
ctxt.fillStyle    = '#f00';
ctxt.strokeStyle = '#000';
ctxt.lineWidth   = 3;
```
    b. Describe the purpose of each method in (a)
    c. Put these codes into an appropriate function:
```
ctxt.beginPath();
ctxt.moveTo(60, 240);
ctxt.lineTo(240, 240);
ctxt.lineTo(150, 60);
ctxt.closePath();
ctxt.fill();
ctxt.stroke();
```
    d. Test you code and evaluate the output
    e. Rearrange the position of coordinate and test your code.
    f. What is the use of moveTo methods above?

d. a new rotate triangle function
    a. Set the new position of the new triangle at the middle of previous triangle
```
ctxt.translate(canvas.width / 2, canvas.height / 2);
ctxt.rotate(Math.PI / 4);
ctxt.beginPath();
```
    b. Start drawing a new triangle using a new coordinate
```
ctxt.moveTo(-90, 90);
ctxt.lineTo(90, 90);
ctxt.lineTo(0, -90);

ctxt.closePath();
ctxt.fill();
ctxt.stroke();
```
    c. Test and evaluate your result.
    d. You can press the rotate many times, and can have different triangle at different location, why it's happened?

e. Clear the canvas
    a. Put this code to clear the canvas

```
ctxt.clearRect(0, 0, canvas.width, canvas.height);
```

b. Can you write more better clear canvas , to clear all canvas

THE CODE:

Restricted Mode is intended for safe code browsing. Trust this window to enable all features.   Manage   Learn More

Lab 5 _ Task 1.html   Lab 5_ Task 2.html   Lab 5_ Task 3.html   Lab 5_ Task 4.html ×   Release Notes: 1.89.1   // Function to find the square of a give Untitled-1 ●

C: > Users > ASUS > Documents > CSM3103 > LAB 5 - S67383 NURHASLINDA BINTI BAHARUDDIN > <> Lab 5_ Task 4.html > ⊘ html > ⊘ body > ⊘ div#year_input > ⊘ input

```html
 2    <html>
 3    <head>
58      <script>
59        $(document).ready(function() {
66          ctx.moveTo(60, 240);
67          ctx.lineTo(240, 240);
68          ctx.lineTo(150, 60);
69          ctx.closePath();
70          ctx.fillStyle = '#f00'; /* Set fill style before filling */
71          ctx.fill();
72          ctx.stroke();
73
74          ctx.beginPath();
75          ctx.moveTo(-90, 90);
76          ctx.lineTo(90, -90);
77          ctx.lineTo(0, -90);
78          ctx.closePath();
79          ctx.fill();
80          ctx.stroke();
81
82          /* Step 2: Your JavaScript code for the radio buttons goes here */
83
84          /* Step 3: Your JavaScript code for the color ranking goes here */
85
86          /* Step 4: Your additional JavaScript code goes here (optional) */
87        });
88      </script>
89    </head>
90    <body>
91      <h2>jQuery UI-Survey</h2>
92      <h3>General Information</h3>
93      <div id="name_input">
94        <label for="name">Name:</label>
95        <input type="text" id="name">
96      </div>
```

Restricted Mode   ⊗ 0 ⚠ 0   Ln 106, Col 44   Spaces: 2   UTF-8   LF   HTML   🔔

C: > Users > ASUS > Documents > CSM3103 > LAB 5 - S67383 NURHASLINDA BINTI BAHARUDDIN > <> Lab 5_ Task 4.html > ⊘ html > ⊘ body > ⊘ div#color_input

```html
 2    <html>
90    <body>
97      <div id="date_input">
98        <label for="date">Date:</label>
99        <input type="text" id="date">
100     </div>
101     <div id="year_input">
102       <h3>Are you enrolled as an undergraduate or a graduate?</h3>
103
104       <input type="radio" name="enroll_year" id="ugrad" value="ugrad">
105       <label for="ugrad">Undergraduate (taking 6.813)</label><br>
106       <input type="radio" name="enroll_year">
107       <label for="grad">Graduate (taking 6.831)</label>
108
109       <!-- Step 2: Your HTML here -->
110     </div>
111
112     <div id="color_input">
113       <!-- Comment out instruction when you finish step 3 -->
114       <h3>Rank the colors listed from your most favorite (1)
115       to your least favorite (5). Be sure to only use each ranking once.</h3>
116       <!-- Comment this part of the form out after step 3 -->
117       <input type="text" class="rank_color" id="red">
118       <label for="red">#ff0000</label><br>
119       <input type="text" class="rank_color" id="blue">
120       <label for="blue">#0000ff</label><br>
121       <input type="text" class="rank_color" id="hot_pink">
122       <label for="hot_pink">#ff00b3</label><br>
123       <input type="text" class="rank_color" id="mustard">
124       <label for="mustard">#ded447</label><br>
125       <input type="text" class="rank_color" id="dark_green">
126       <label for="dark_green">#125e18</label><br>
127
128       <!-- Step 3: Your HTML here -->
129       <!-- Uncomment instruction when you finish step 3 -->
```

Restricted Mode   ⊗ 0 ⚠ 0   ⚡ 0   Ln 113, Col 62   Spaces: 2   UTF-8   LF   HTML   🔔

THE OUTPUT:

jQuery UI-Survey

General Information

Name: [_____]   Date: [_____]

Are you enrolled as an undergraduate or a graduate?

○ Undergraduate (taking 6.813)
○ Graduate (taking 6.831)

Rank the colors listed from your most favorite (1) to your least favorite (5). Be sure to only use each ranking once.

[___] #ff0000
[___] #0000ff
[___] #ff00b3
[___] #ded447
[___] #125e18