Lab 07 CSS

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General Information

What you should do

• You should first review Lecture 4 (Part A) and be familiar with the concepts on CSS as well as the related code examples so that you can refer to the specific techniques from the corresponding slides when completing the tasks in this lab.

• You should try to come up with the code yourself as much as possible. Do not be afraid of making mistakes, since debugging (finding out where your code goes wrong and fixing it) is part of the learning process.

• We do not give out model programs to the exercises. There can be multiple ways to write the code that solves the same problem. It is important that you build up the program logic yourself instead of merely looking at some code that you do not understand. At any time if you are lost or if you have any questions, feel free to ask the instructor, tutor, or teaching assistant and we will be very happy to help you.

Self-Discovery

• Most lab tasks are designed to be relatively simple such that you can take the time to think about the related underlying concepts. Besides, we also encourage you to discover things on your own which may not be specified in the tasks.

Task 1.1 Open the File from Lab 06

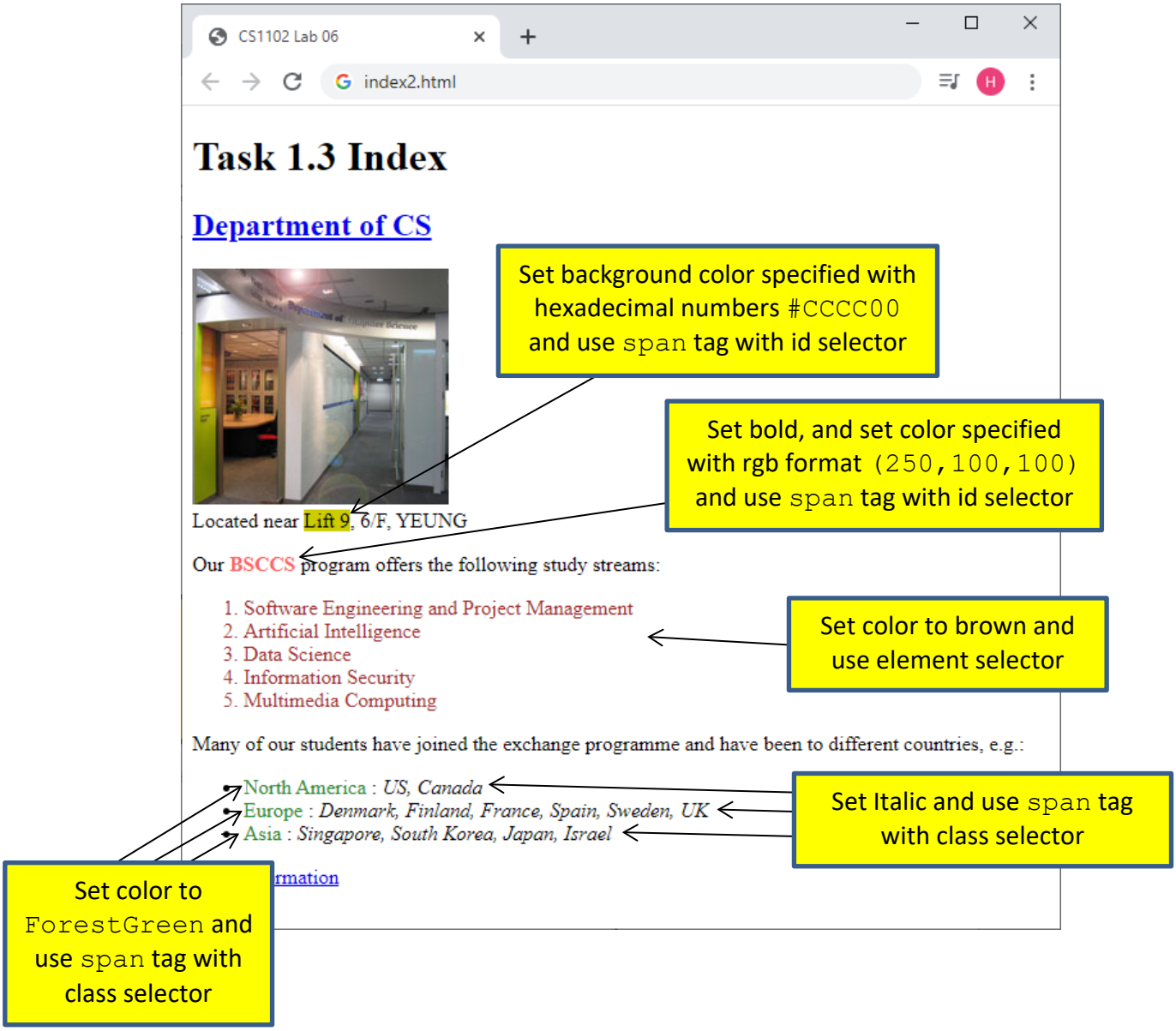
In this lab you will start with the file `index.html` that you have done from Lab 06. Save the file `index.html` from Lab 06 as a new file with filename called `index2.html` in the same folder as `index.html`, i.e., in the folder `lab06-folders`.

Task 1.2 Set Styles with CSS

In this task, you will set the styles of the html file `index2.html` using CSS that you have learnt from the lecture. You are required to set the CSS styles such that your webpage will appear according to the specifications on next page.

Again, you can open the html file on a browser to see what it looks like after you make a change on the file. **Verify that each update your make is correct before working on the next item.**

Always remember to save your file.



Some hints are provided below to help you on this task. Note that it is assumed that you have read the code examples from Lecture 04a such that you know the basics of CSS.

1) The CSS styles can be specified inside the `<style> </style>` tags in the `<head>` info

2) Use `<span>` to enclose a certain text chuck where you want to set a particular style to this specific text chunk only. Add an ID to that `<span>` tag and use id selector to set the style.

3) The background color can be specified with hexadecimal numbers by setting the property `background-color` to `#CCCC00`

4) The bold font can be applied by setting the property `font-weight` to `bold`

5) The rgb format can be used to specify the color by setting the property `color` to `rgb(250,100,100)`

6) It is possible to specify more than 1 rule inside the curly brackets for a selector in the following format:

```
[selector] {
    [property1]: [value1];
    [property2]: [value2];
}
```

7) Which element selector should be used for setting the color of the ordered list to brown?

8) The italic font can be applied by setting the property `font-style` to `italic`

9) Use `<span>` to enclose a certain text chuck where you want to set a particular style to a number of text chunks with similar styles. Add a class to each of these `<span>` tags and use class selector to set the color or font to the whole class (use the same class name to indicate the same class)

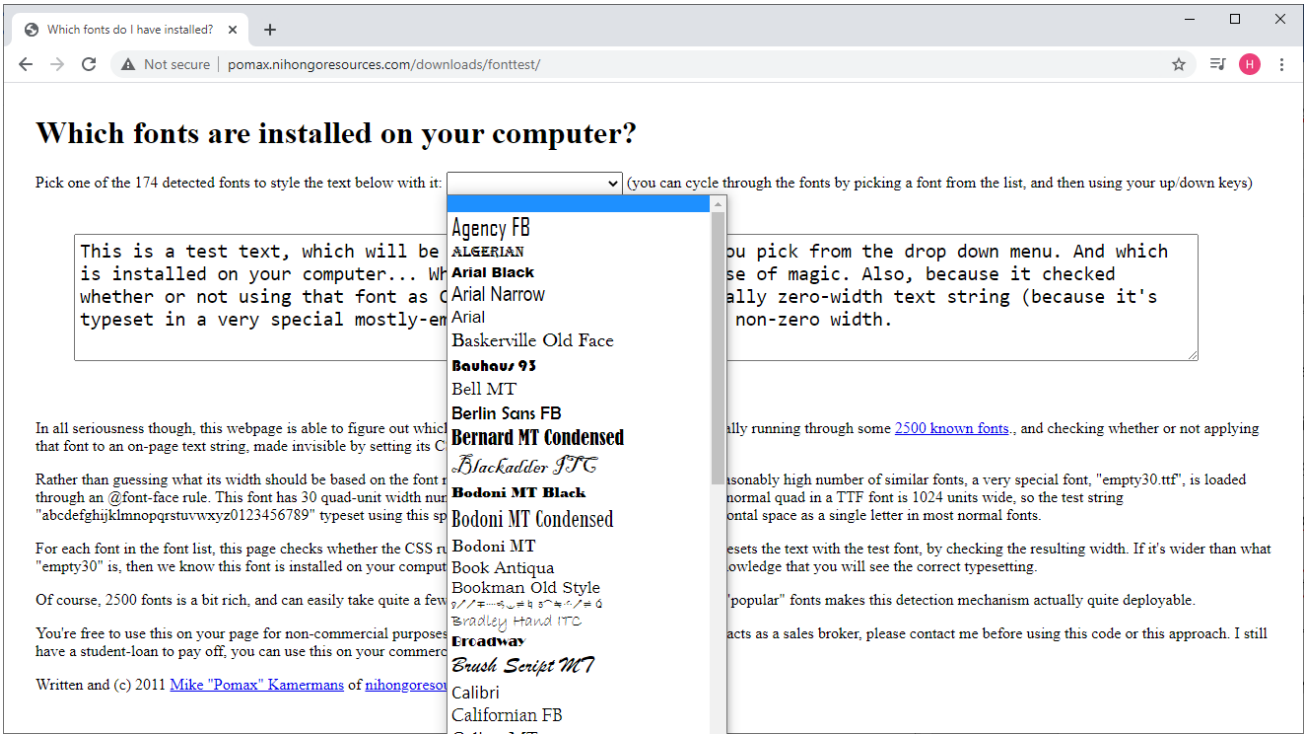
10) The color can be specified by setting the property `color` to supported color name such as `ForestGreen`

Now change the name of one of your classes to share the same name as the name of one of our IDs, e.g., set `id="xyz"` in one of your elements and `class="xyz"` in other elements. Change the corresponding selector(s) to reflect the new name. Can your webpage still be displayed correctly according to the specifications in this situation?

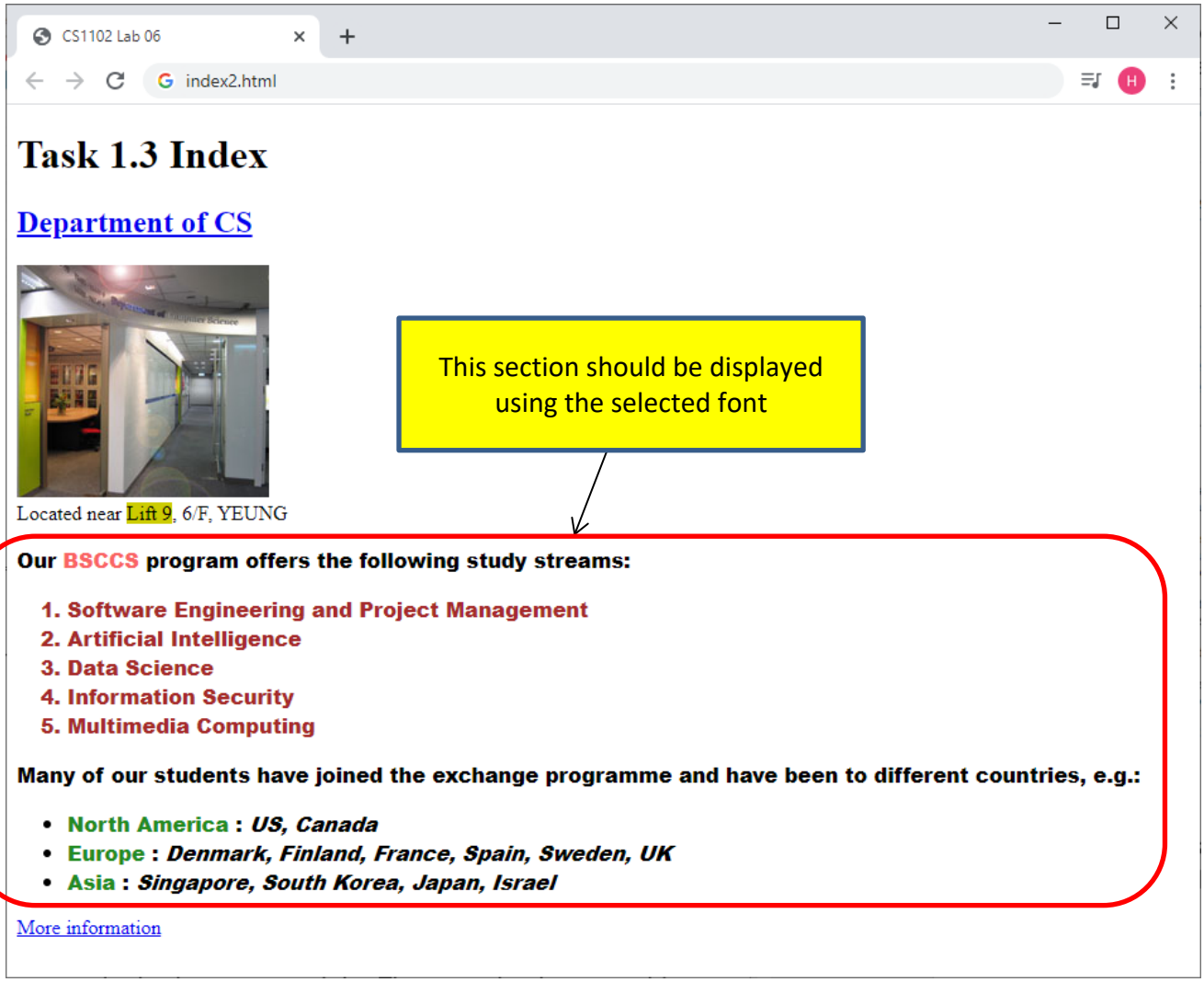
Task 1.3 Font Family

In this task we will explore how to display the text in different fonts. At first we would like to determine which fonts are available on our computer. Go to Mike "Pomax" Kamermans' webpage http://pomax.nihongoresources.com/downloads/fonttest/ that will run a test to determine the fonts that are installed on your computer.

Wait for the webpage to finish building the list of fonts on your computer. Then click on the drop-down menu to see such list of fonts.



From the list, choose 2 fonts where the first font name has at least 2 words, e.g., Arial Black, and the second font has only 1 word, e.g., Calibri. The two fonts that you choose will be applied in the following task. In particular, we would like a specific section of the webpage `index.html` displayed using your selected font, as shown in the following figure:



Try using 2 different kinds of selectors for accomplishing this task:

1) Use the group selector that includes the elements `p`, `ol`, `ul`. Then define the rule by setting the property `font-family` to your list of selected fonts
2) Add a `<div>` element to enclose the above section. Add an ID to this `<div>` tag and use id selector to define the rule by setting the property `font-family` to your list of selected fonts.

With each of the above selector, verify that the section is displayed using the first font in your selected list specified under the property `font-family`. Then reverse the order of the fonts and view the webpage again to see that the section is displayed with another font, i.e.,

Try this first and verify that the section is displayed in Arial Black font:

```
[selector] {
   font-family: "Arial Black","Calibri";
}
```

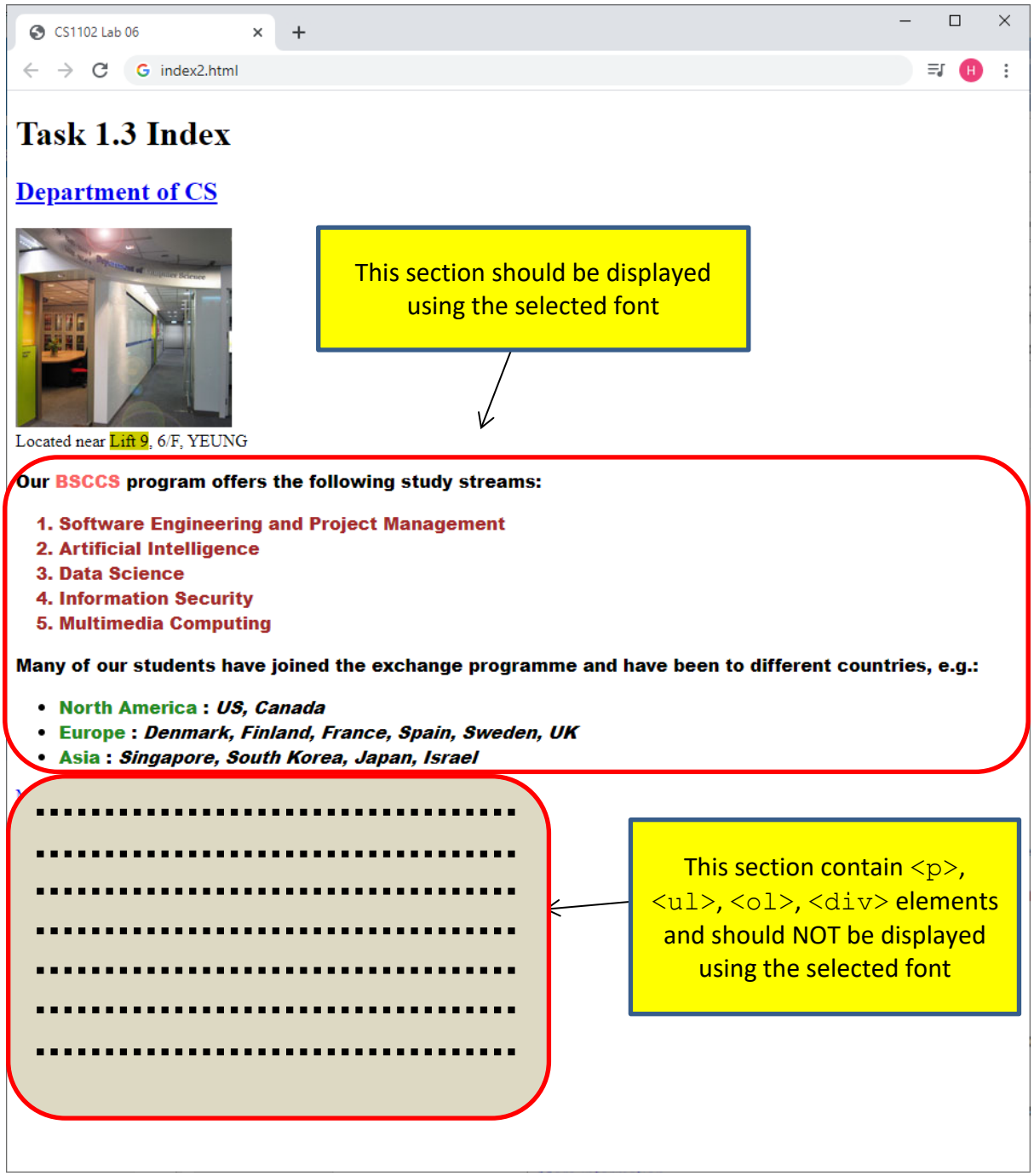
Swap the order of the font list and verify that the section is displayed in Calibri:

```
[selector] {
   font-family: "Calibri","Arial Black";
}
```

Think about the following issues:

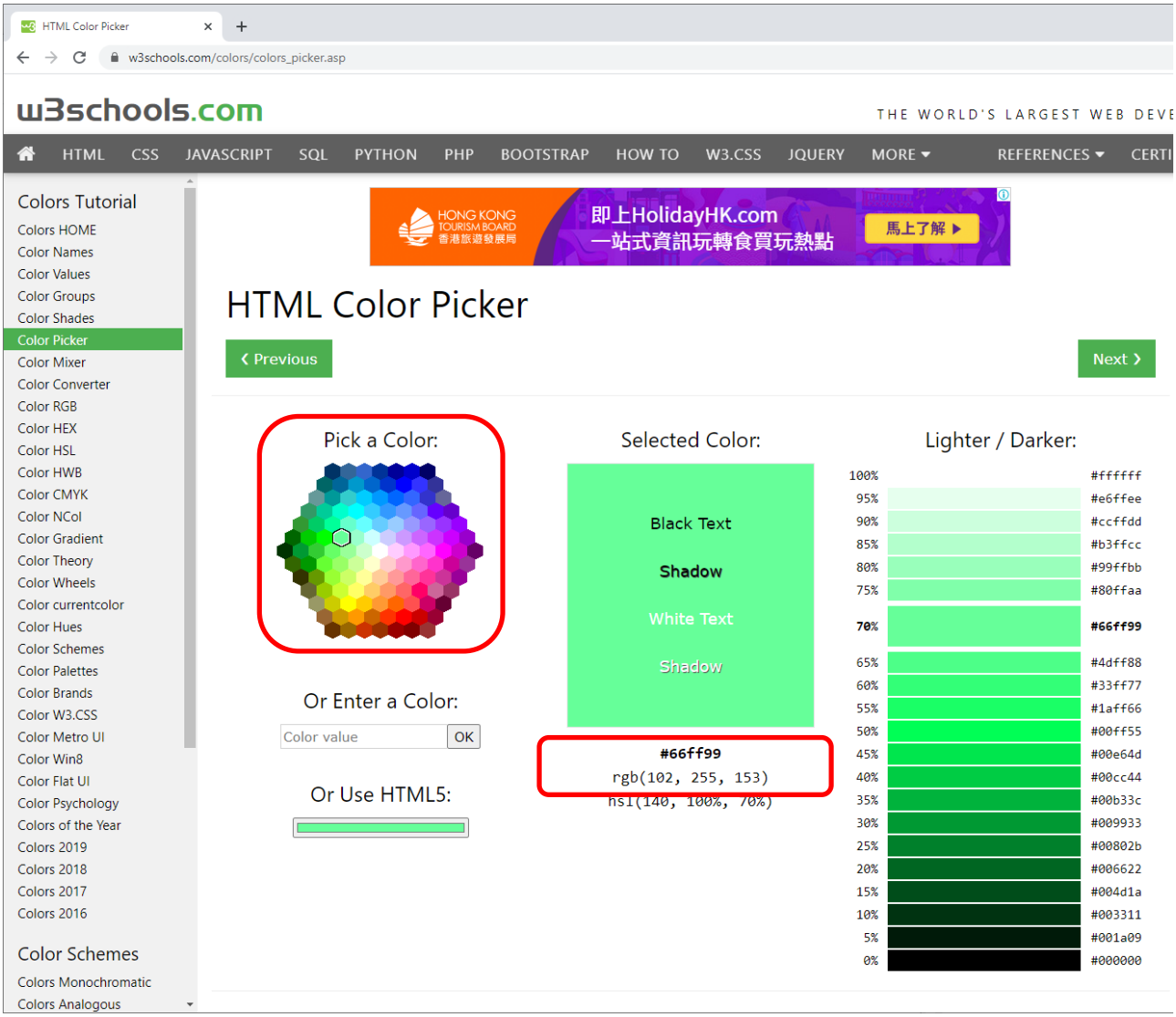
a) Can you use the `div` element without adding an ID to it and still apply a selector to make this work?

b) Assume that this webpage is extended to have more content added to the end, but the content does not need to be displayed using the above fonts. If the new content contains the elements `p`, `ol`, `ul`, `div`, would each of the above two kinds of selector still work correctly? i.e., consider the following illustration:



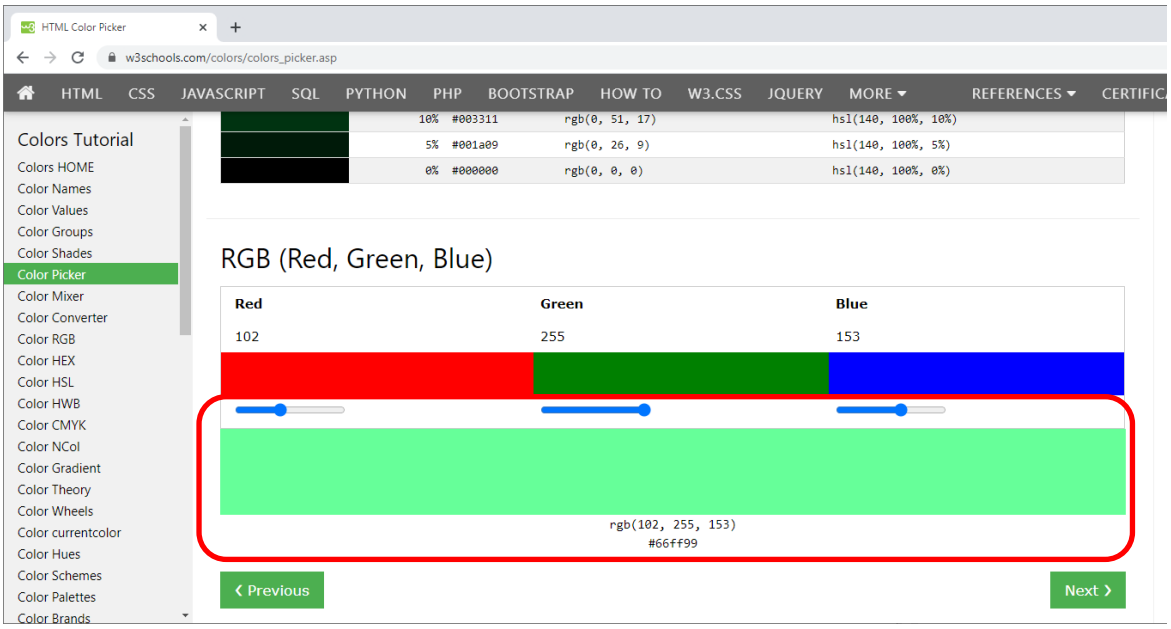
Task 1.4 Explore Colors

Go to the HTML Color Picker webpage https://www.w3schools.com/colors/colors_picker.asp and pick on a color to see its RGB values displayed in decimal and hexadecimal format:



Pick a red color, and compare the values of the 3 components to see which one has the largest value. Repeat the same observation by picking a green color and a blue color respectively.

Scroll further down the webpage and you can specify the exact values of the red, green, blue components by using the sliders:



1) When the values of red, green, blue components are all 0, what color is it?

2) When the values of red, green, blue components are all 255, what color is it?

3) When the values of red, green, blue components are equal, e.g., 128, do you observe gray color? If you change their values, e.g., 64 or 196 while still keeping the red, green, blue components the same value, how is the gray color different?

4) What should be the values of the red, green, blue components for generating other colors such as yellow, cyan, magenta, etc.?

Task 2 Review Previous Labs

You can review the previous labs by reading and following the lab instructions, and check that you are able to complete the lab tasks and exercises by yourself. If you have any questions, you can ask the lab tutor or TA during the lab session.

Task 3 Complete the assessment from the Canvas course page

You should complete the Lab 07 Assessment from the Canvas course page before the posted deadline.

Task 4 Challenge your classmates

You can first reflect on what you have learnt in this lab, and then come up with problems to challenge your classmates. You can post your problem on the Canvas course page, under this Discussion page. One should be able to solve your problem by using what he/she learns in Lab 07. You will not get extra marks by posting a challenging problem or solving a challenging problem posted by another student, but you will earn your fame so that you can impress the course leader, the lab tutors, and your classmates.