CS 1033

MULTIMEDIA AND COMMUNICATIONS

Lab 5: Website Design

Remember to have your memory stick or a place in the cloud ready to back up your work in every lab!

Learning objectives for this lab

- Inserting a table structure for a webpage layout
- Modifying the table's width, border, and padding parameters
- Merging table cells and inserting sub-tables to customize the layout
- Adding buttons instead of text links in a website
- Applying JavaScript code to add rollover effects to link buttons
- Debugging and fixing a webpage with broken links

Introduction

This lab is a continuation from the previous one which introduced WYSIWYG web design. In this lab, you will learn how to create a clean layout using tables and customizing the layout by merging cells and inserting sub-tables. The next part of the lab explains how to add links to buttons and how to create rollover buttons using JavaScript code. You will also be expected to analyze a website with broken links and fix the errors so that the website works properly again.

Glossary

merge   to join cells together into one larger cell

split   to split a single cell into multiple cells

JavaScript   a programming language that adds interactivity to an HTML website

rollover   the effect in which the link changes (colour, size, etc.) when the mouse cursor hovers over it

debug   the act of looking for errors (bugs) and fixing them

Things to Keep in Mind
Saving Your Work Frequently

As you learned in Lab4, you need to save your work frequently. Make sure you do the steps below every so often because html5-editor DOES NOT AUTOMATICALLY SAVE YOUR WORK:

- Work in html5-editor and format your work
- Get out of Fullscreen View of the Visual Panel and go the html tags on the Code Panel of html5-editor
- Hit Ctrl+A to select all your new work
- Hit Ctrl+C to copy all your work
- Do NOT close your browser
- Go back into the webpage you were working on in Notepad and select all the text between the tags <body> and </body>
- Hit Ctrl+V to replace all that selected text with the newer version
- Hit File>Save to save your changes in Notepad

REMEMBER TO DO THESE STEPS EVERY SO OFTEN so that you do not lose your work.

HTML5-Editor Panels

Remember the names of the two main Panels you will be working with on html5-editor:

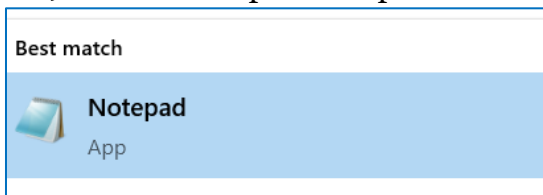# Keyboard Shortcuts for Windows

Ctrl+A   Select all text/content in an opened file or active textbox

Ctrl+C   Copy text/content

Ctrl+V   Paste text/content

Ctrl+X   Cut text/content

Ctrl+Z   Undo action

Ctrl+Y   Redo action

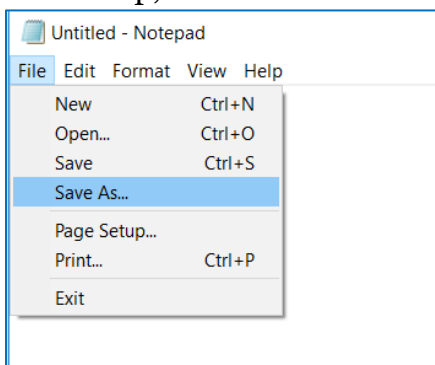**Ctrl+S**   Save file

Activity 1
Table layouts

In this first exercise, you will learn how to create a webpage layout using tables. You will use tables to give your webpage layout a clean and crisp alignment.

1. Navigate to your **cs1033** folder on your memory stick or your laptop. You should have a few folders (directories) in there from the previous labs. Create another folder and name it **lab05**.
2. Go into the new **lab05** folder and create a sub-folder inside it called **act1**. Go into **act1** and create a sub-folder called **images**
3. Open http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/act1 in Chrome. Download all the files into **cs1033/lab05/act1/images**
4. Use the Windows search tool (magnifying glass at the bottom of the Windows bar) to find and open Notepad.

   Best match

   Notepad
   App

5. On the top, click on File > Save As

   Untitled - Notepad

   File   Edit   Format   View   Help

   New   Ctrl+N
   Open...   Ctrl+O
   Save   Ctrl+S
   Save As...
   Page Setup...
   Print...   Ctrl+P
   Exit

6. In the opened prompt, navigate to **cs1033/lab05/act1**
7. In the *File name* option: type "index.html" and select All Files for the *Save as type:* option. It should look like this:
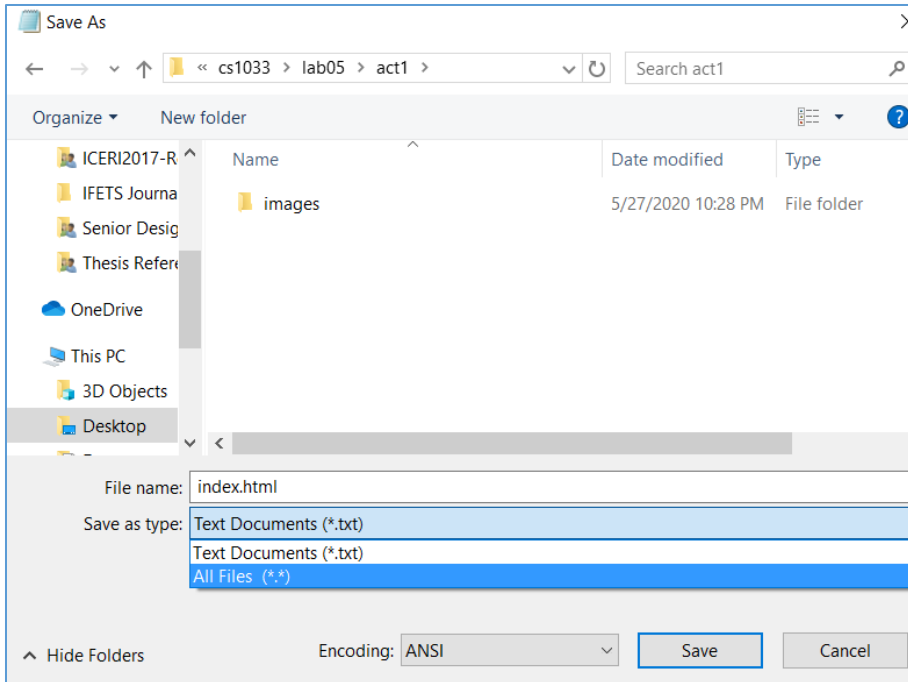
Hit the Save button

8. html5-Editor.net does not generate ALL the html tags that we need to create a complete webpage. Before going into the first activity, as we did before in Lab04, we will always need to add 5 more tags and their closing tags for each of our webpages. For the Page Title tag <title>, enter "Home | Bon Voyage". Your **index.html** notepad content should look as follows:
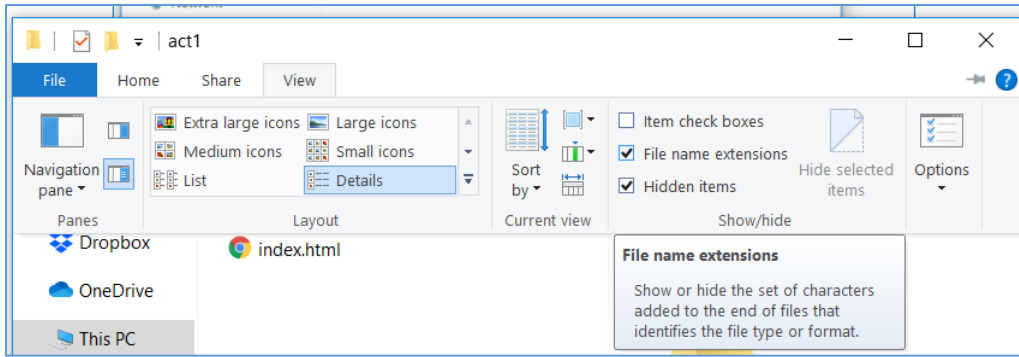

9. Click File>Save. Leave **index.html** open in Notepad as we go onto the next step.
10. Without closing Notepad, navigate back to the file explorer to show the extension of the files in your folder as we did in the previous lab. (on the upper tool bar click on View and find the Show/hide area. Check the option File name extensions if it is unchecked.)

11. Use the Windows search tool (magnifying glass at the bottom of the Windows bar) to find and open Google Chrome browser.
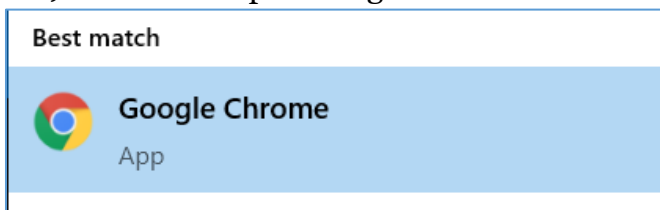

12. In Chrome's navigation bar type: https://html5-editor.net/ and press Enter. You will open the html5-editor website. If the page has sample content in it, reload the page to start with a clear page.
13. Next, on the Visual Panel, select View > Fullscreen.
14. Now we want to create a table On the most upper bar of the Visual Panel, click on Table and Create a table with 3 rows and 4 columns to insert a 4 x 3 table.
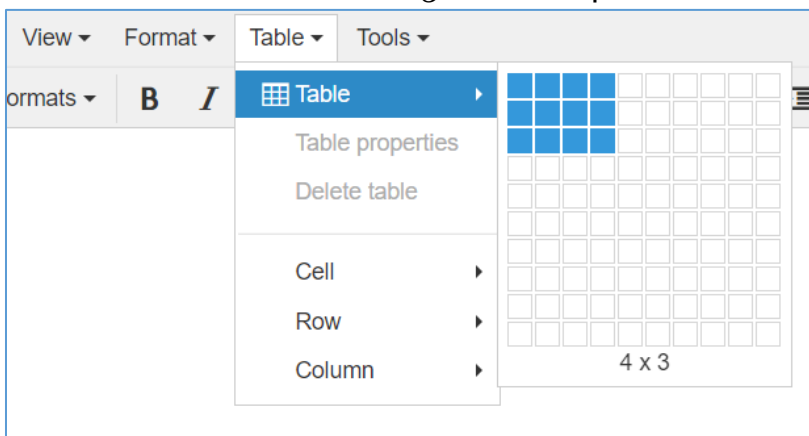

15. Your webpage should have a visible table of this size now. Notice that the table seems collapsed with very small width and height. We will change that to control how much horizontal space it takes up.
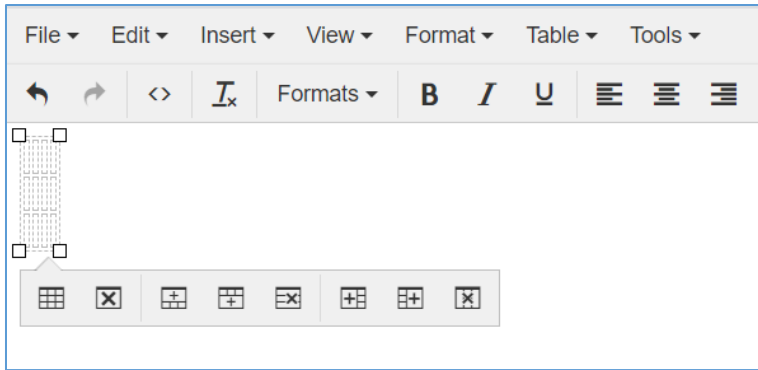
16. While the newly created table is still selected, click Table > Table properties.
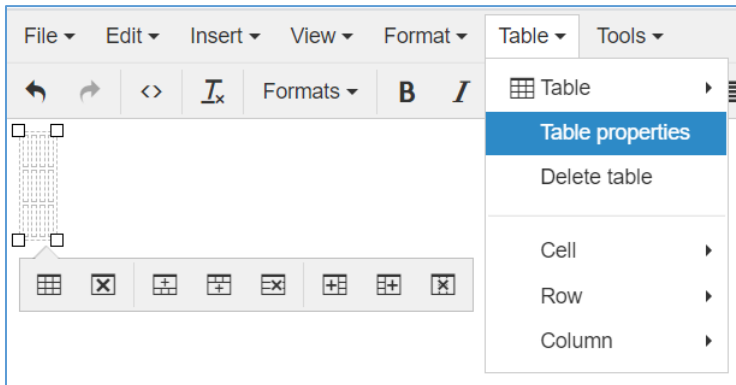

17. The Table Properties pop-up window has various settings you can use to modify the table structure. The first two fields on the top, *Width* and *Height*, allow you to alter the Table dimensions. At the bottom, you can change the table's Border thickness and add Cell padding to add space between the content and the edges of the table cells. In the *Width* textbox type in **1000px NOT 1000 px**. (do NOT add the space between 1000 and px!) Then, in the *Border* textbox type 1.
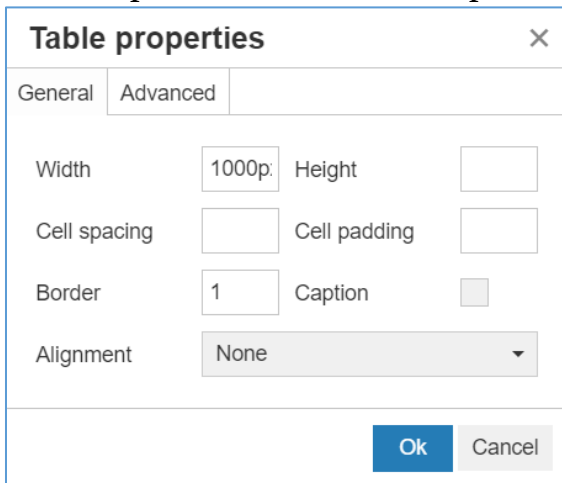

Press Ok.

18. Now your table is a fixed width of 1000 pixels regardless of the screen or window size.
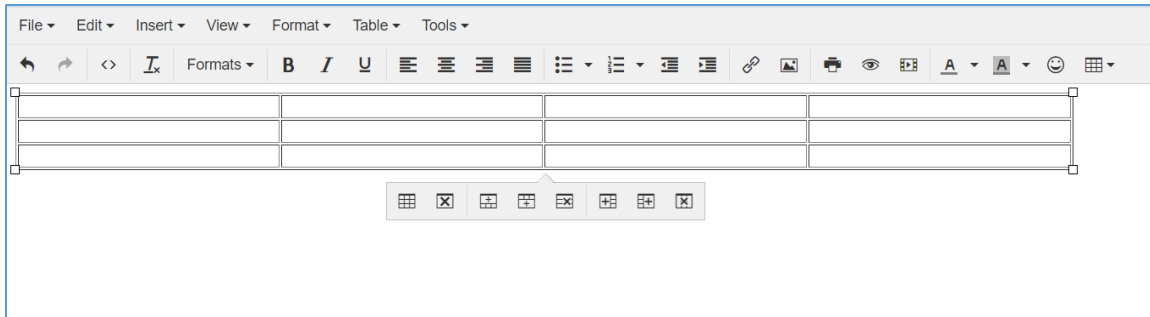
Normally tables are intended for numeric data or other tabular data, like an Excel spreadsheet. However, we will be using tables to keep a clean alignment when creating the layout for the webpages. Each cell will likely contain one element which can be an image, header text, paragraph of text, link/button, or a multimedia file or even another small sub table could be contained within a cell.

19. In order to create a layout that you want, cells may have to be joined (merged) together into one big cell or split into smaller cells. To join cells in html5-editor, first highlight the cells you wish to merge together and then click **Table>Cell>Merge Cells.** We will merge the 4 cells in the top row together to be one long cell. Highlight the top row of cells and merge them as shown in the image below:
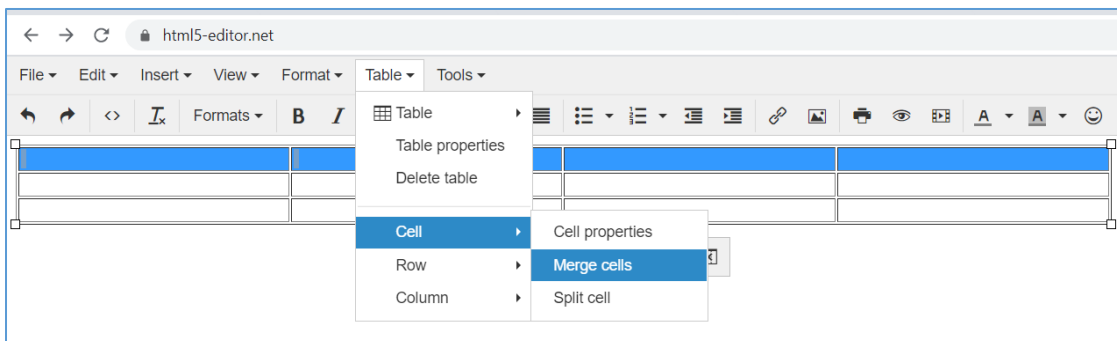

20. Now the top row of your table should be one long cell rather than 4 small cells. This gives us one long cell where we can insert the image we will use as our banner at the top of all of the web pages in our website.
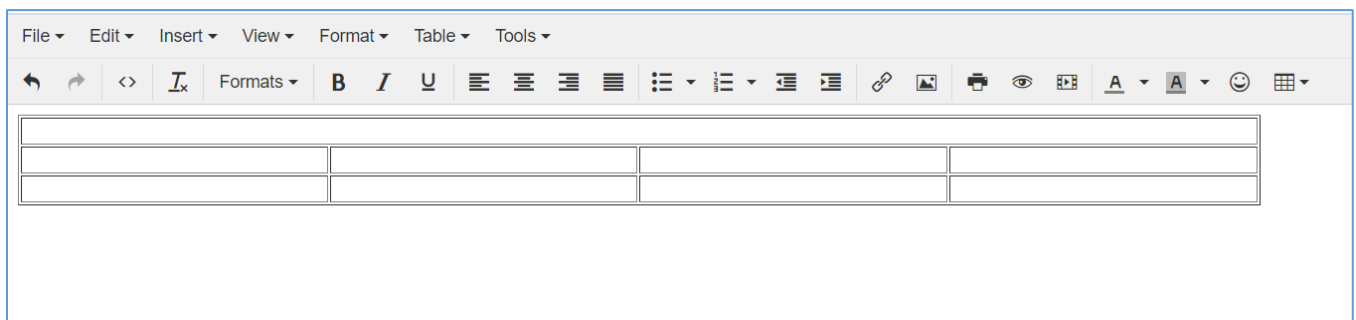
21. Click into that top cell such that a cursor appears in the cell. Click Insert > Image.
22. In the Insert/edit Image window, move to the *Source* textbox and type "images/banner.jpg". This is the location relative path of the **images** sub-folder you created in the **act1** folder.
23. In the *Image description* textbox type "Bon Voyage banner". Click Ok.
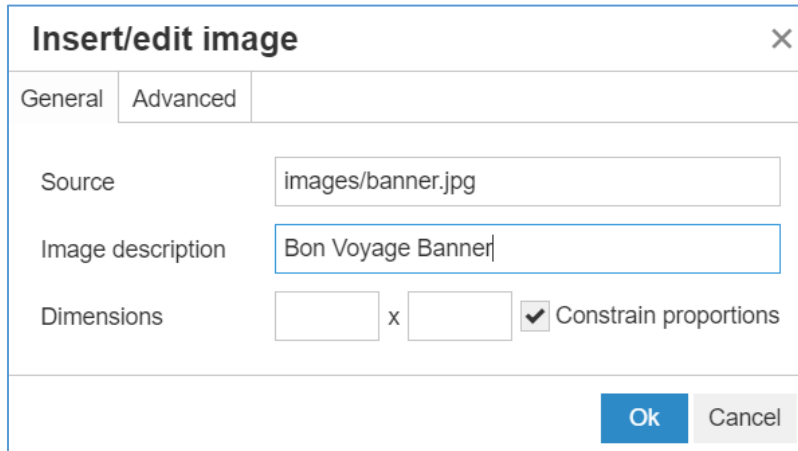
24. Click on the image (which won't be visible for now) to ensure it is selected. Click the "Align center" icon along the Secondary Format Toolbar. It should look like the image below after you hit the Align center icon.
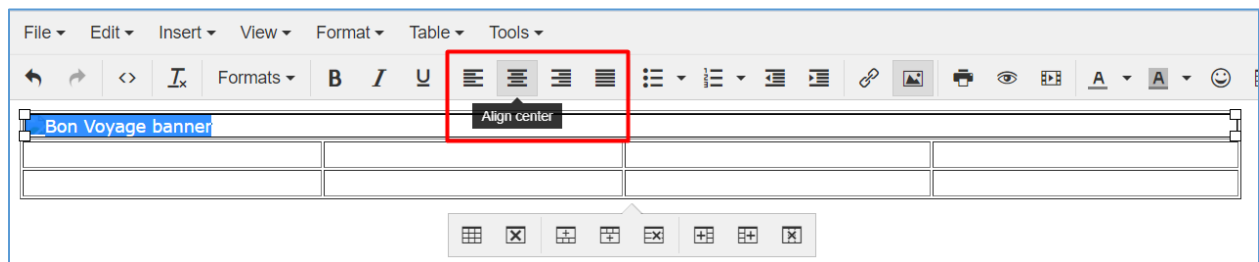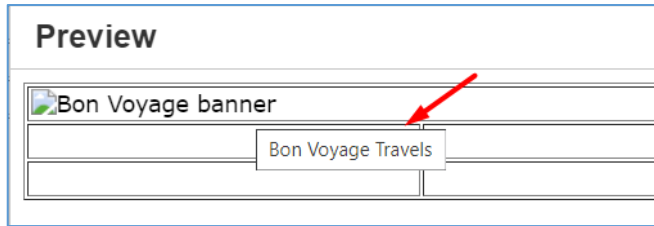

25. We want to add a title attribute to the banner image. Exit Fullscreen mode (View>Fullscreen). On the Code Panel, find the banner.jpg <img> tag and add any appropriate *title* attribute. For example, "Bon Voyage Travels"

26. On Visual Panel, click View>Preview. Hover over the banner image. You should see the title you just added:

Click on Close to exit Preview mode.

27. Save your work the same way you did in Lab4 by copying and pasting (Ctrl+A then Ctrl+C) the html code from the Code Panel to the open **index.html** file in Notepad between the <body> and </body> tags
KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT otherwise you will lose your work so far. We still need to do more steps for Activity 1.

28. Click File> Save. Your **index.html** Notepad content should look something like this:

1. Go into the File Explorer into **lab05/act1**, right-click on **index.html**, and click Open With > Google Chrome. You should see the following website with the banner image visible now:

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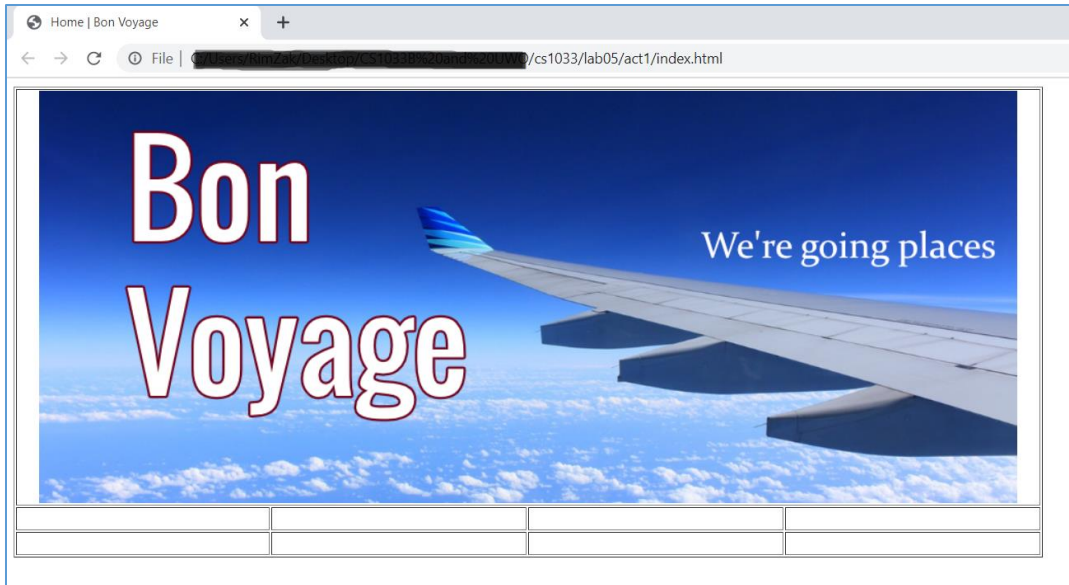
29. Now go back to your active html5-editor tab. On the Visual Panel side, select View>Fullscreen.
30. In the 2nd row you will add text to represent where links would go. Type each of the following texts into the 2nd row cells, one in each cell beginning from the leftmost cell: "Home", "Cruises", "Flights", and "Packages".
31. Highlight this entire row of link placeholders and click the "Align center" icon.
32. We only left ourselves with one row (3rd row) for content in this table which is not enough. As you saw above, you can change the number of rows or columns in a table in the Table Properties pop-up window. There's also a quicker way to add and delete rows and columns without opening any windows using the following table options bar that appears on the Visual Panel (highlighted by a red rectangle below):
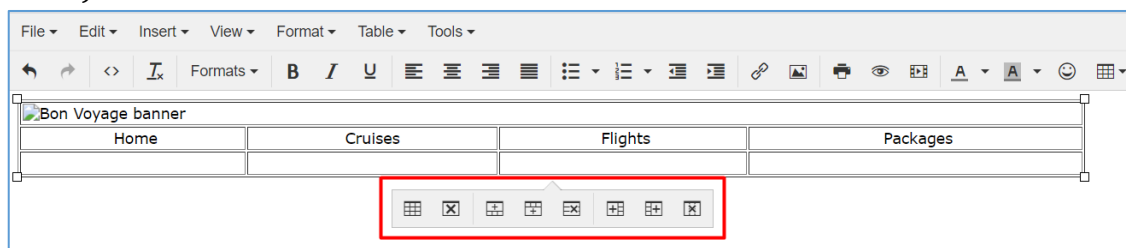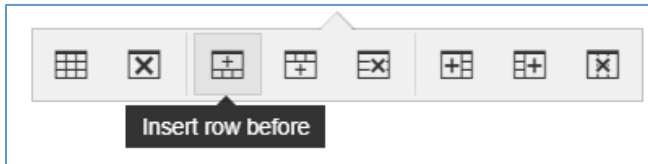

33. Click into the leftmost cell of the 3rd row. On the table options bar, click on the "Insert row after" icon


This adds a new row below the row you are currently in.

34. Click back in the same cell you were just in (3ʳᵈ row, leftmost cell) and on the table options bar, click on the "Insert row before" icon to add a new row above this row.

35. Click in the bottom row's leftmost cell now and on the table options bar, click on the "Delete row" icon to delete that row.
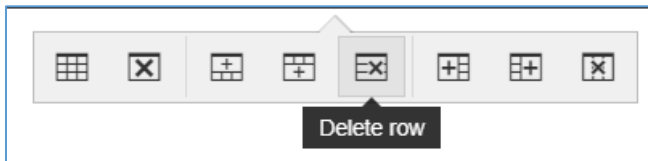

36. Use these icons to create 3 empty rows (there should be 5 rows in total now in the table).

37. Use the Cell Merging process taught previously (Highlight cells then Click on Table>Cells>Merge) to merge the 2 cells in the 3ʳᵈ row creating the *PAGE HEADING* section as shown in red below. NOTE: Then join the 4 cells (the 2 X 2 block to the right) shown below in green by highlighting those 4 cells and doing Table>Cells>Merge. You have now created an area to put an image and another area to put a heading.
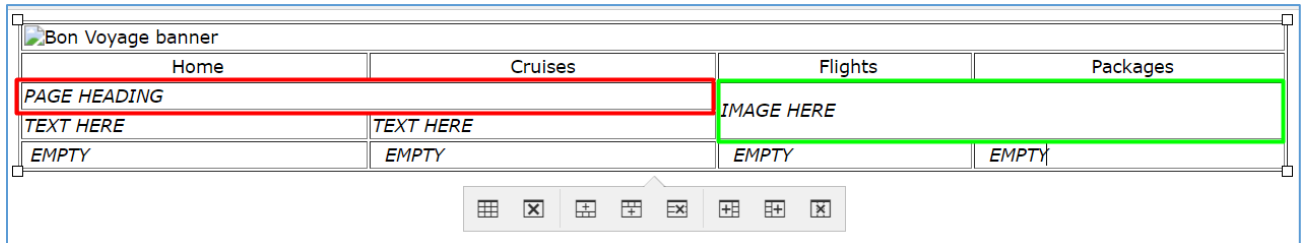

38. In the Page Heading cell, type "Welcome to Bon Voyage" and set it to Heading 1 format.

39. In the Image Here cell, insert the image *beach.jpg* as a relative path to the images subfolder as we have done many times before. Set the Image description as "Beach vacation". Then set this image's *title* attribute in the Code Panel to "Book your vacation today!"

40. On Visual Panel, go back to Fullscreen mode. Hit Enter to add a new line after the beach image and then insert another image. This time add *venice.jpg* as a relative path. Set the Image description as "Venice riverboats". Then set this image's *title* attribute in the Code Panel to "Explore Europe".

41. This Venice image is larger than the beach image so we want to adjust its width about the same width as the beach image. The best way to do this is to get the width of *beach.img* first then apply it to *venice*.jpg. To do so:
   a. On File Explorer, navigate to **cs1033\lab05\act1\images**
   b. Right-click on *beach.jpg* and select Properties

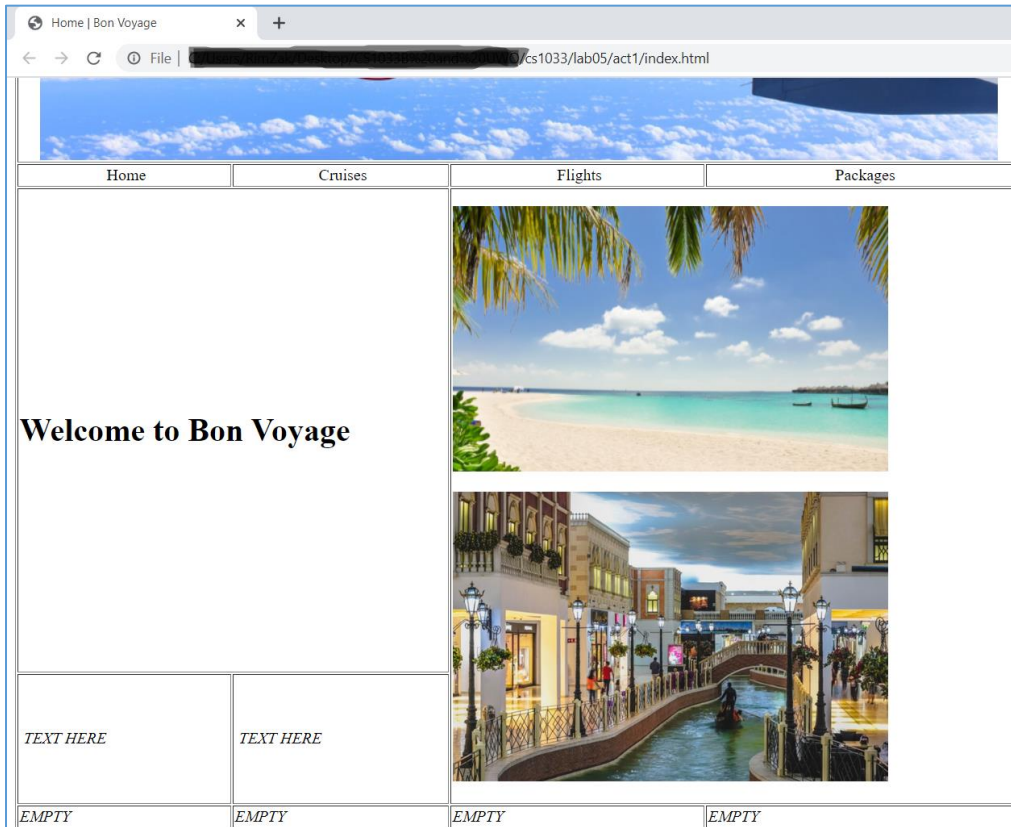c. Click on the Details tab. Find "Width" and take a note of it. In this case its 432px.
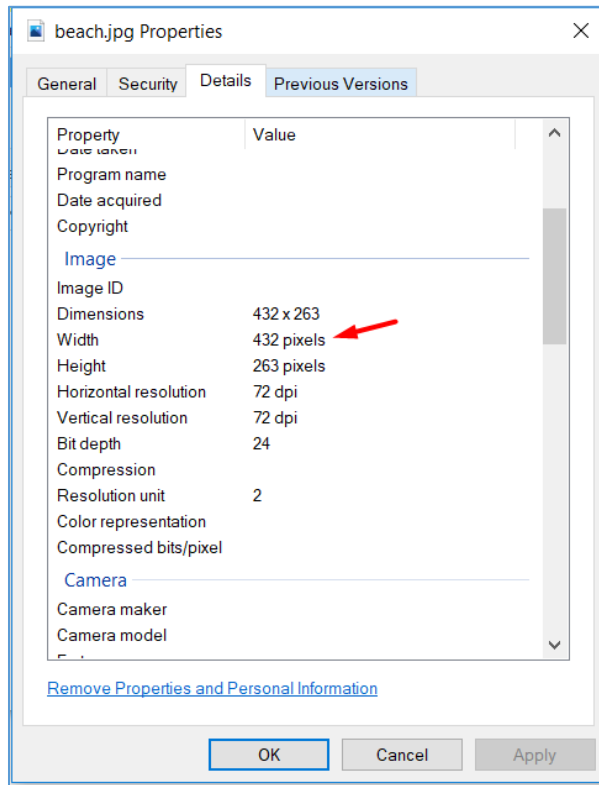
d. On Chrome, go back to your active html5-editor tab. On the Visual Panel, go back to Fullscreen mode.
e. Select the *venice.jpg* image that you inserted previously and click Insert>Image to reopen its properties.
f. Edit the Width box next to the *Dimensions* field and type 432px as below (DO NOT put a space between 432 and px). Click Ok.
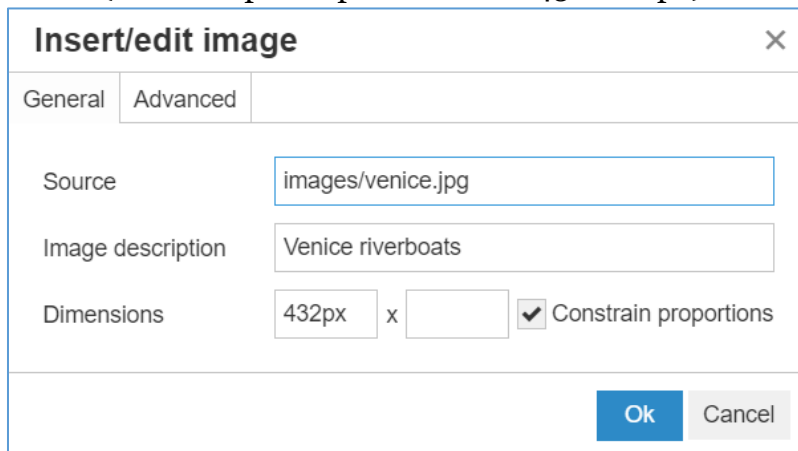
42. Save your progress so far following the same steps we used many times previously by copying and pasting (Ctrl+A then Ctrl+C) the html code from the

Code Panel to the open **index.html** file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 1. Make sure you select the content between <body> and </body> and hit Ctrl+V. Then Click File> Save.

43. Confirm that the images widths are the same by open **index.html** with Chrome. Your webpage should appear like so:


44. On Chrome, go back to your active html5-editor tab. On the Visual Panel, go back to Fullscreen mode.

45. In the left Text Here cell (see image above to make sure you are sure which cell we mean), type or copy and paste the following text:

> Welcome to Bon Voyage. We are an online travel agency here to help you book the vacation of your dreams and getting you the best bang for your buck. We'll search for deals in the areas you want to visit. What are you waiting for? Book your vacation today!

46. In the right Text Here cell, type (do NOT copy and paste) the following text and make sure you use an numbered (ordered) list structure (in the Secondary

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Format Toolbar, click on the Numbered list icon), **don't type the actual numbers in the list yourself**:
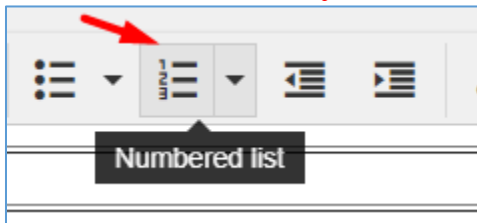
Make sure to format "**Top 5 Recommended Destination**" to be bolded as shown above.

47. After you type in the list, adjust the width of the cell by dragging the left edge of the cell horizontally so it appears similar to the below:
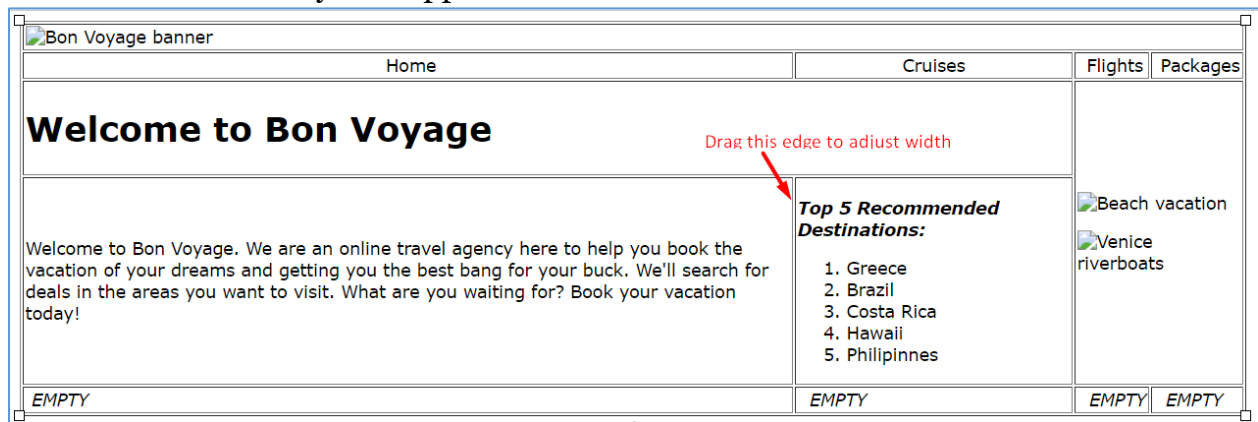

48. You may have noticed that the text almost touches the border of the cells in table by default which looks unappealing. It's best to have a little space (padding) between text and an edge or other element. Select the 3 cells that contain text (Page Heading and the 2 text cells below it).

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49. On the top, click Table>Table properties. In the textbox beside the *Cell padding* field type 5px (remember, no space between 5 and px). Push OK.
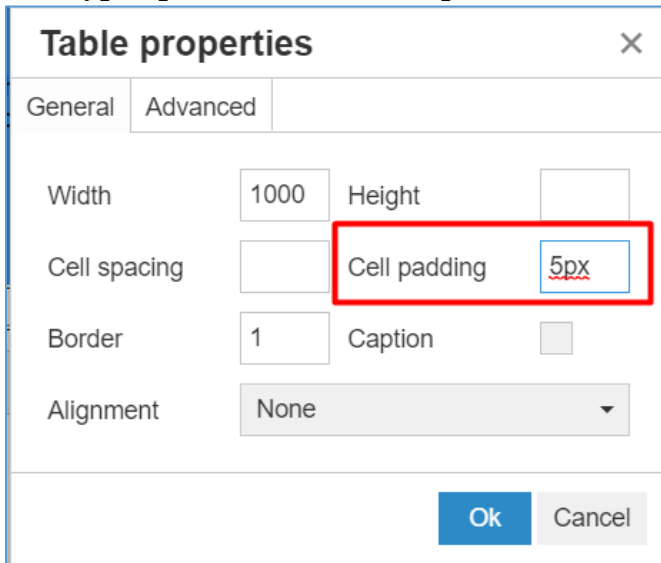
50. Now you should see padding (space) around the edge of the cell so the text doesn't touch it. Notice it adds padding to ALL the cells in the table, even the ones that were not selected.

51. Save your progress so far following the same steps we used many times previously by copying and pasting (Ctrl+A then Ctrl+C) the html code from the Code Panel to the open index.html file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 1. Make sure you select the content between <body> and </body> and hit Ctrl+V. Then Click File> Save.

52. On Chrome, go back to your active html5-editor tab. On the Visual Panel, go back to Fullscreen mode.

53. Click into the Page Header section that reads "Welcome to Bon Voyage!". Delete that header text but leave your cursor in that cell.

54. On the most upper bar of the Visual Panel, click on Table and Create a table with 2 rows and 1 column to insert a 1x2 table.
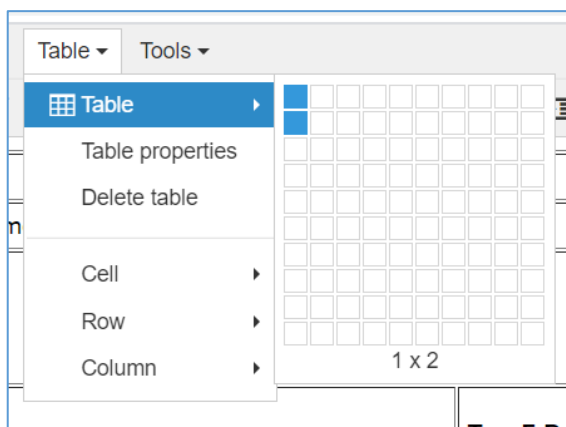
55. While the newly created table is still selected, click Table > Table properties. In the *Width* field, type 475px for the table's width. Press Ok.

56. In this top row of the new, inner table, type "Welcome to Bon Voyage!" again and use the Header 1 formatting.
57. In the lower row of this inner table, click Insert > Image. In the Source field type "images/divider.png" as a relative URL path. Set the Image description as

"Divider". Push OK.

58. Then set this image's *title* attribute in the Code Panel to "divider" also.

```
20  </tr>
21  <tr>
22  <td><img title="divider" src="images/divider.png" alt="Divider" /></td>
23  </tr>
24  </tbody>
```

59. This divider image is a bit large and will expand the table when first inserted. Click a corner of the image to resize it about the same width as the header text above it. The changes won't be visible for now. Click on the divider.png image and click Insert>Image. Delete the number in the height box so that it is automatically set as relative to the width without skewing the image.
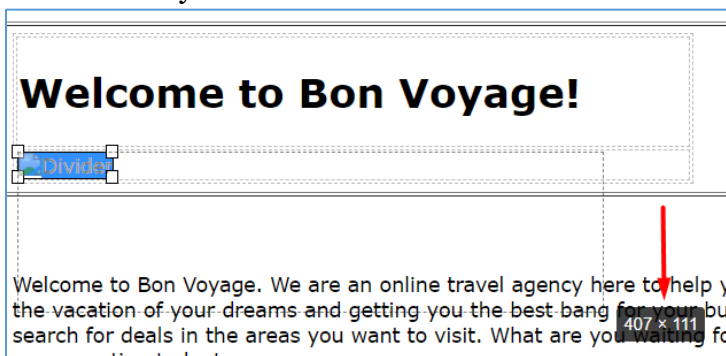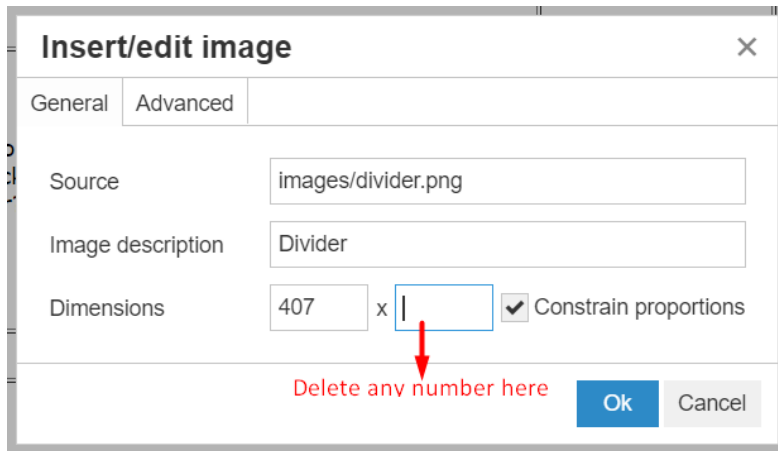
60. Highlight both cells of this inner table. Click Table>Table properties.
61. Change the Border value to 0px. Push Ok.
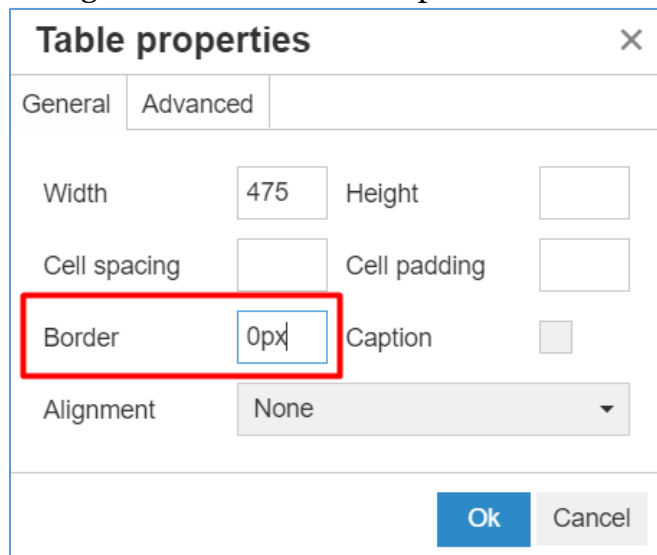
62. Now we need to adjust the width of the cells in the 2nd row of the outer main table so we don't get a distorted looking webpage. The width of each cell will be equal to the total width of the outer table (which is 1000px in this example) divided by the number of cells (which is four cells in this example). In this example, we would like each of the cells in the 2nd row to have a width of **1000/4 = 250px.**
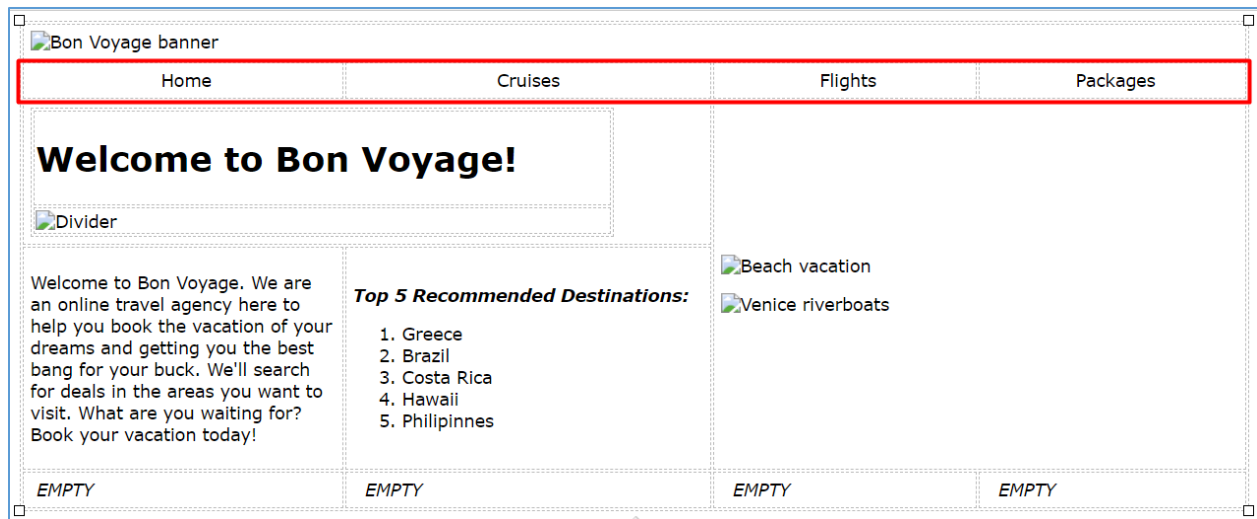
63. Select the entire 2nd row. Then on the uppermost menu click Table>Cell>Cell properties. Change the *Width* field to 250.
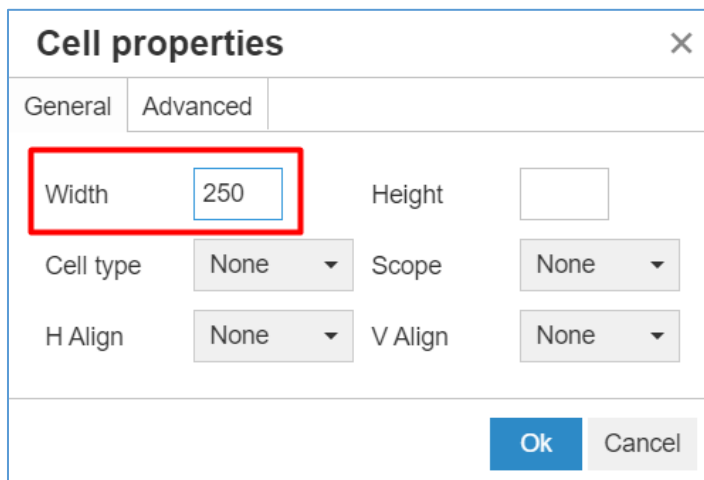
64. Last step is to remove the border lines of the outer table so that no one will know we used a table to get this clean layout. It makes things a bit easier to work with by having the border while creating our table but now we want to get rid of it. Make sure you are clicked on a cell in the outer table and click Table>Table properties. Set the Border value to 0px for this outer table as well. Push Ok.

65. Save your work from the Code Panel to the **index.html** Notepad file. Then open **index.html** with Chrome.

66. The webpage in Chrome should look similar to this:
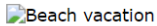
67. Notice that by removing the border on the tables, we gave a nice crisp clean left and right alignment but the user can't tell that all the content is in tables. Once you start taking more advanced courses on building webpage, you will learn how to use CSS to create crisp clean layouts for your webpages but for CS1033, this beginner course, we will always use tables with 0 pixel border widths to create a more professional looking layout.

If your website buttons (which was the 2nd row in the table) appear distorted liked the screen shot below, in the table properties change the table borders to 1px (to see the borders), manually adjust the bigger cells by dragging their width from the edge using the mouse, then readjust the cells properties by selecting the entire 2nd row.

Next, click Table>Cell>Cell properties, then change them all to width 250px. Finally in the table properties, change back the table border value to 0px.

Activity 2
Buttons and rollovers

Many modern websites use rollovers on the main navigational links. Rollovers help by emphasizing which link is currently under your mouse cursor and it adds visual appeal because it is interactive. There are different ways of implementing rollovers in a website. In this activity you will add buttons (images) and learn how to use JavaScript (another website language that works well with HTML) to add rollovers to your buttons.

1. If not already done, close any files open left from *act1 (index.html)*, both in HTML5-editor online and in Notepad to avoid mixing up files between activities.
2. Go into the File Explorer and navigate to **F:/cs1033/lab05**.
3. Create a new sub-folder called **act2**. Inside it, create another sub-folder called **images**
4. Open http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/act2/images in Chrome and download all the files to **cs1033/lab05/act2/images**
5. Use the Windows search tool (magnifying glass at the bottom of the Windows bar) to find and open Notepad.
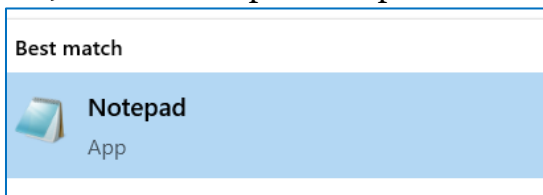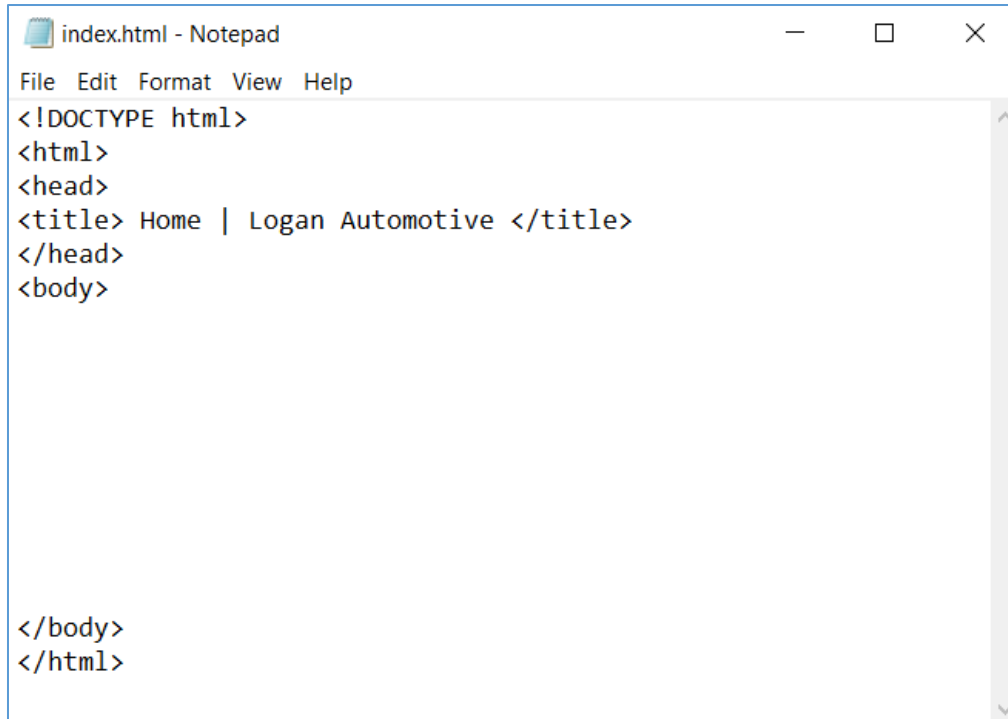
6. On the top, click on File > Save As
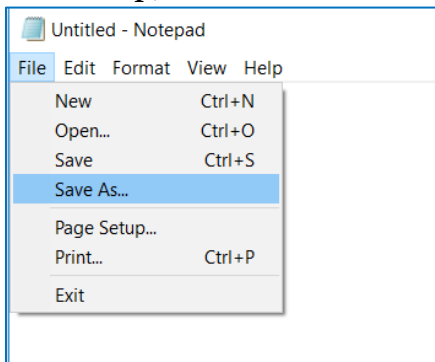
7. In the opened prompt, navigate to **cs1033/lab05/act2**
8. In the *File name* option: type "index.html" and select All Files for the *Save as type:* option. Hit the Save button
9. We will need to add 5 more tags and their closing tags for each of our webpages. While still in Notepad, edit your index.html file by adding those tags. For the Page Title tag <title>, enter "Home | Logan Automotive". Your **index.html** notepad content should look as follows:

```
index.html - Notepad                          —    □    ✕
File  Edit  Format  View  Help
<!DOCTYPE html>
<html>
<head>
<title> Home | Logan Automotive </title>
</head>
<body>




</body>
</html>
```

10. Click File>Save. Leave **index.html** open in Notepad as we go onto the next step.
11. Open the following link in Chrome: https://html5-editor.net/
12. You will now be at the html5-editor website. If the page has sample content in it, reload the page to start with a clear page.
13. Next, on the Visual Panel, select View > Fullscreen.
14. Now we want to create a table. On the most upper menu bar of the Visual Panel, click on Table and create a table with 4 rows and 4 columns to insert a 4 x4 table.
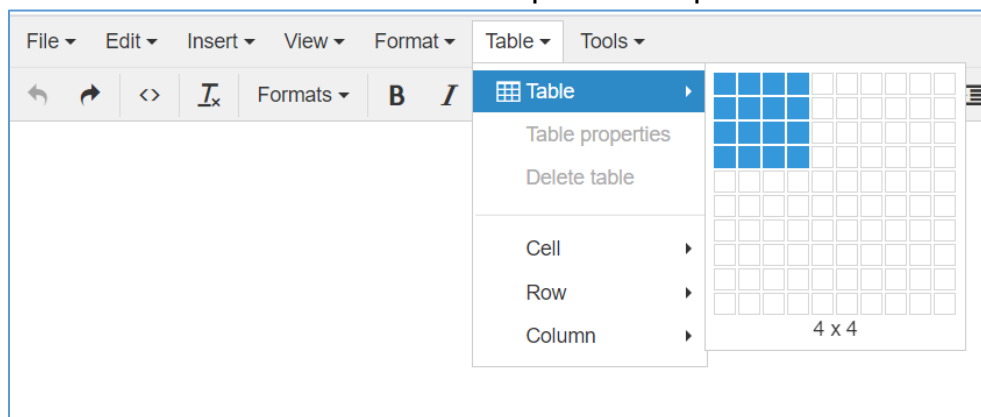
15. While the newly created table is still selected, click Table > Table properties. In the *Width* textbox type in **1000px.** Then, in the *Border* textbox type 1. Press Ok.

16. Highlight all the cells in the table and click on Align center icon.
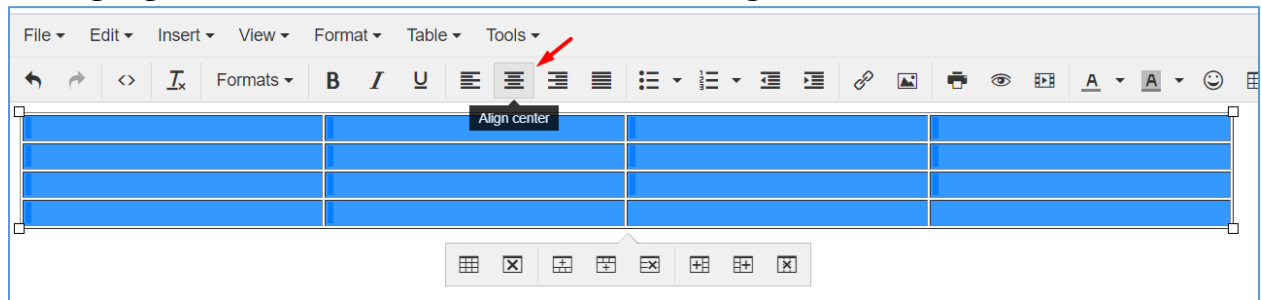
17. Highlight the 4 cells across the top row. On the upper table click Table>Cell>Merge cells.
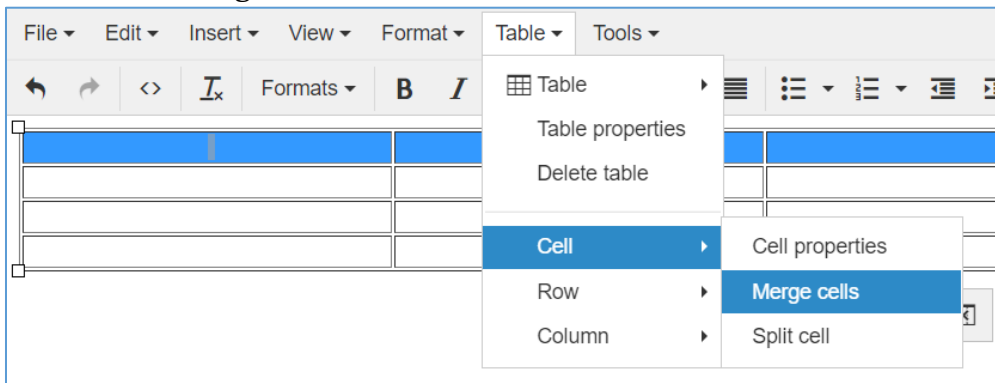
18. Click into the top, long cell. Insert the image *banner.jpg* from **cs1033/lab05/act2/images** and make sure it's a relative path. Give it an appropriate Image description and Title attribute (remember the title attribute is added in the banner's <img> tag found in the Code Panel).

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Insert/edit image ✕

General | Advanced

Source | images/banner.jpg

Image description | Automotive banner

Dimensions | ☐ x ☐ ✔ Constrain proportions

[Ok] [Cancel]

19. Save your work from the Code Panel to the **index.html** Notepad file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 2. In Notepad, save the text you just pasted into index.html. Also, do NOT close Notepad until you are instructed to close it. Open **index.html** with Chrome.

20. Confirm that your site appears as below:

21. On Chrome, go back to your active html5-editor tab. On the Visual Panel, go back to Fullscreen mode.

22. In the 2nd row, you will add the default button images (from menu bar do *Insert > Image* 4 times) into the cells as follows with relative paths and appropriate Titles and Image descriptions texts:
    a. home_default.jpg (leftmost)
    b. products_default.jpg (2nd from the left)
    c. services_default.jpg (3rd from the left)
    d. contact_default.jpg (rightmost)
       NOTE: It is VERY important you type the 4 file names above exactly as you see them. Do not change the case (make sure it all lowercase) and remember to include the underscore character_ and the .jpg. The image description can be mixed case and anything you want and, as long as your title descriptions do not contain double quotes, and are between the

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double quotes, they can be anything you want but the file names MUST be spelled exactly as shown above.

23. In your Code Panel, the code should show the 4 default buttons you added:

```
 6  <tr>
 7  <td style="text-align: center;"> <a href="index.html"><img title="home
    button" src="images/home_default.jpg" alt="Home button" /></a></td>
 8  <td style="text-align: center;"> <a href="products.html"><img
    title="Products button" src="images/products_default.jpg" alt="Products
    button" /></a></td>
 9  <td style="text-align: center;"><a href="services.html"><img title="Services
    button" src="images/services_default.jpg" alt="Services button" /></a> 
    </td>
10  <td style="text-align: center;"><a href="contact.html"><img title="Contact
    button" src="images/contact_default.jpg" alt="Contact button" /></a> 
    </td>
11  </tr>
```

24. Each of these buttons should be centered within its containing cell.

25. Confirm that these buttons have been added correctly by saving your work from the Code Panel to the **index.html** Notepad file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 2. Open **index.html** with Chrome.

26. Confirm that your table appears as below:

27. On Chrome, go back to your active html5-editor tab. On the Visual Panel, go back to Fullscreen mode.

28. Select the default Home button image and click Insert>Link.
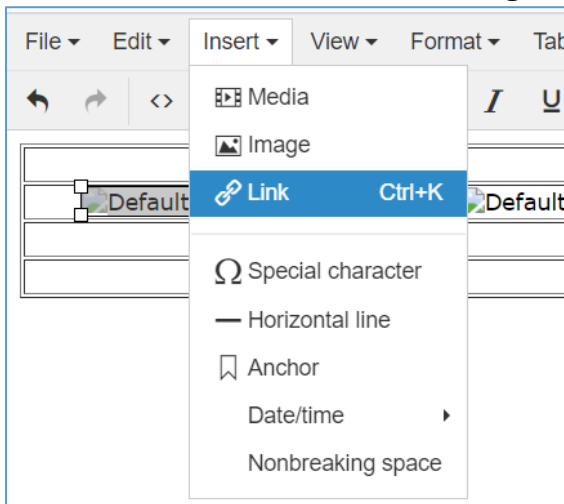
29. In the Insert link pop-up window, in the *Url* textbox type **"index.html"** and make sure it's a relative path (i.e. it doesn't point to anything outside of the act2 folder) .
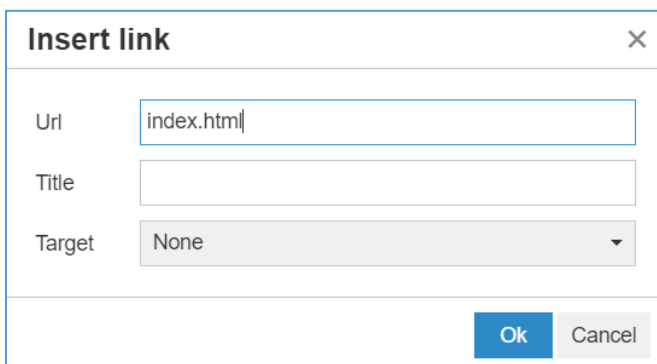
Push Ok.
30. Now your Home button will link back to this home page when clicked.
31. Open http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/act2/extrafiles in Chrome. Right-click on each of the 3 webpages and save/download them into your folder **F:\cs1033\lab05\act2**. (Make sure you save these 3 files into your act2 folder NOT into your images subfolder)
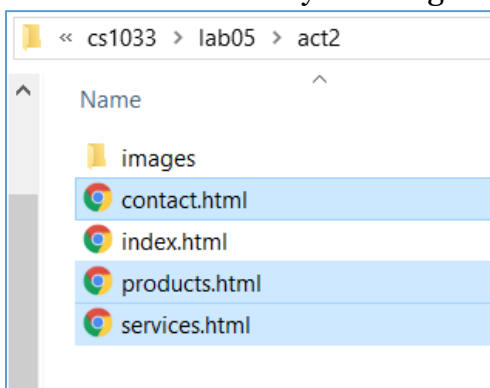
Make sure the three files' extensions are html and NOT htm without the l. This can happen if you download them through Internet Explorer.

32. Repeat the step above that linked the home button to index.html on the other 3 buttons, but link them to their respective pages (i.e. Products button pointing to **products.html**, etc.)

33. Click down in the leftmost cell of the 3rd row in the table and drag across to select the entire 3rd row. Join these cells together (Table>Cells>Merge cells).

34. Click into this long cell across the 3rd row. Type in there:
Welcome to Logan Automotive (Make this Heading 1)

Car Agent of the month: ***STUDENT FIRSTNAME AND LASTNAME (@UWO_ID)*** (Make sure to bold and italic your name and uwo_id)

35. Select cell and Align left (Table>Cell Properties>H Align and select Left).

36. Adjust Table padding to 5px (Table>Table properties)
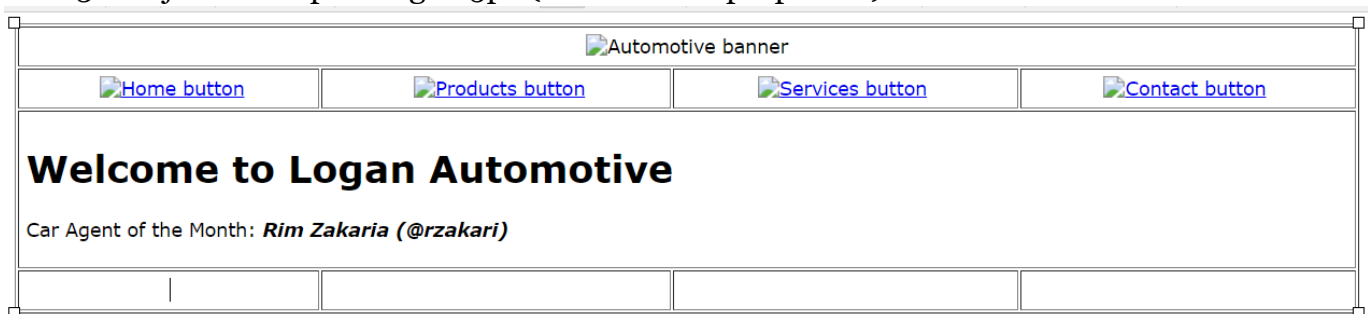
37. Confirm that these buttons are linked correctly to their respective pages by saving your work from the Code Panel to the **index.html** Notepad file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 2. Open **index.html** with Chrome. Click on every button on the **index.html** page. Make sure you go back to your home page each time to check the 4 links. All the links work from the 3 pages we supplied you with so you don't need to check those, the links you do need to check are the ones you built on the home page. i.e. keep going back to the home page and THEN press on a link to check it. NOTE: If one of your links doesn't work, it is likely a spelling mistake on the link's file name so go back into html5-editor and double check your spelling (Click on the image and then select Insert>Link and check the spelling).

38. Now you have made link buttons! The rest of this activity will be showing you how to use JavaScript to add a rollover effect to these buttons. When you were on the 3 pages we supplied you with, you might have noticed the rollover buttons. If not, open your index.html in Chrome and click on the products page button and then hover your mouse over each of the buttons on the product page and notice what a rollover button will do when your mouse is over it!

39. To create our own rollover buttons, in the Code Panel, for every button's <img> tag we will add these two attributes:

a. *onmouseover* – this attribute will contain the JavaScript that will trigger an event when the mouse hovers over the button.
   b. *onmouseou*t – this attribute will contain the JavaScript that will trigger an event when the mouse moves out of the button.
40. On Chrome, go back to your active html5-editor tab. This time go to the Code Panel.

41. First we want to create the rollover button for the Home button. We want the button to change from **HOME** to **HOME** when we hover the mouse cursor over this image and from **HOME** to **HOME** when we move mouse cursor away (or out) of this image.

42. Locate the Home button's <img> tag (make sure your cursor is at the Home button <img> tag and not the Banner <img> tag) and add the *onmouseover* attribute like so:

```
7   <td style="text-align: center;"> <a href="index.html"><img title="home
    button" src="images/home_default.jpg"
    onmouseover="this.src='images/home_hover.jpg'"  alt="Home button" /></a>
    </td>
```

The value of the *onmouseover* attribute means that when the mouse cursor hovers over the home button, change the button's image source to **home_hover.jpg** which is found in the **images** subfolder**.** Like all the images we are using for the activity, this must also be a relative path to the directory/folder of the webpage we are working on.

43. Just after *onmouseover* attribute, add the *onmouseout* attribute like so:

```
7   <td style="text-align: center;"> <a href="index.html"><img title="home
    button" src="images/home_default.jpg"
    onmouseover="this.src='images/home_hover.jpg'"
    onmouseout="this.src='images/home_default.jpg'" alt="Home button" /></a>
    </td>
```

The value of the *onmouseout* attribute means that when the mouse cursor moves out of the home button, change the button's image source back to **home_default.jpg** which is found in the **images** subfolder of your **act2** folder. This must also be a relative path to the directory of the webpage we are working on (thus, relative to **act2** folder, the folder where we are saving the index.html file) .

- A common mistake that students make, they forget the single quotes around the path and file name (i.e. 'images/home_default.jpg'), you MUST have the single quotes.
- When doing rollover images NEVER put a space in your image file name or this will not work, e.g. *home_hover.jpg* or *homehover.jpg* are great filenames but do not have a button with the image filename of *home hover.jpg*
- You MUST type everything perfectly for the rollover buttons to work. Just in case you want to double check what you typed, this is exactly what the text should be for the Home button image:

```
…jpg"
onmouseover="this.src='images/home_hover.jpg'"
onmouseout="this.src='images/home_default.jpg'"
alt=…
```

- You can either use single quotations around the JavaScript part and double quotations around the file path or vice versa. Example:
  - ```
    …jpg"
    onmouseover='this.src="images/home_hover.jpg"'
    onmouseout='this.src="images/home_default.jpg"'
    alt=…
    ```
    OR
  - ```
    …jpg"
    onmouseover="this.src='images/home_hover.jpg'"
    onmouseout="this.src='images/home_default.jpg'"
    alt=…
    ```

44. Confirm that Home rollover button is working correctly by saving your work from the Code Panel to the **index.html** Notepad file. KEEP YOUR ACTIVE HTML5-EDITOR TAB OPEN. DO NOT CLOSE IT. We still need to do more steps for Activity 2. Open **index.html** with Chrome.

45. Move you mouse over the Home button and back off the Home button and make sure the images change as shown below:
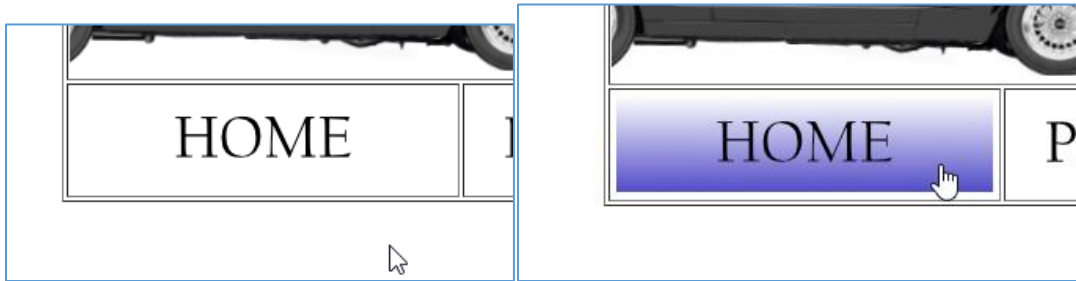
46. Go back to the Code Panel in the active Chrome html5-editor tab. Repeat the previous steps to add the 2 Attributes (*onmouseover* and *onmouseout*) with the corresponding Values to the Products button. It should look similar to this:

```
8  <td style="text-align: center;"> <a href="products.html"><img
   title="Products button" src="images/products_default.jpg"
   onmouseover="this.src='images/products_hover.jpg'"
   onmouseout="this.src='images/products_default.jpg'" alt="Products button" />
   </a></td>
```

47. Repeat these steps again with the Services button. HINT: you might want to copy and paste the onmouseover and onmouse code in the Code Panel for the Home button and paste it to where it should go for the services button and then just change the file names! That will speed things up.

48. Repeat these steps one last time with the Contact button.

49. Save your file, reload it in Google Chrome and test your buttons. If you find any issues, go back and check your attributes for your button images and check the filepaths and make sure the folder name and filename within the onmouseover and onmouseout attributes matches the folder name and filename given for each button image and rollover image.

50. Congratulations, you have just built your first working website with working links and rollover buttons. WELL DONE!

Activity 3
Debug a broken website

It's important to know how to recognize website mistakes (like absolute filepaths) and how to fix them so that you will be prepared if this happens while working on the assignment websites. In this activity you will be debugging (fixing) a website that has errors in it.

1. If not already done, close any files open left from *act2 (index.html)*, both in HTML5-editor online and in Notepad to avoid mixing up files between activities.
2. Go into the File Explorer and navigate to **F:/cs1033/lab05**.
3. Create a new sub-folder called **act3**.
4. Open the following link in Chrome: http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/laurfav/. This is a silly little site with FIVE errors on the home page. Try moving your mouse over each of the four buttons and try clicking on each of the four links from this home page. The home page (index.html) is the only page with the errors, so go back to the home page each time to test each of the four buttons with links. Try to identify the FIVE errors.

5. Right click on the index.html page in the browser and select View Source to look at the HTML tags. You should be able to see some problems immediately.
6. We will help you figure out the first mistake → Near the bottom, notice the link to the turnip image:

    yle="width: 269px; height: 133px;" alt="Hmmmm Turnip" title="Hmmmm Turnip" src="images/TURNIP.jpg"></td>

    Western and turnip
    ls it turnip) but not

    Now look here at the list of images: http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/laurfav/images/, and see if you can figure out why that yummy turnip doesn't appear properly.
7. Now you are going to figure out the other 4 mistakes, fix all 5 mistakes using https://html5-editor.net/ and Notepad, re-upload the site, and then test that your fixes worked!
8. Download into the **act3** folder this zipped file containing the site: http://www.csd.uwo.ca/~bsarlo/cs1033/labs/lab05/laurfav.zip and unzip the file onto your memory stick i.e. **F:\cs1033\lab05\act3**. (or wherever you are saving your **lab05** folder). To unzip **laurfav.zip**, right-click on **laurfav.zip** and click on Extract Here.
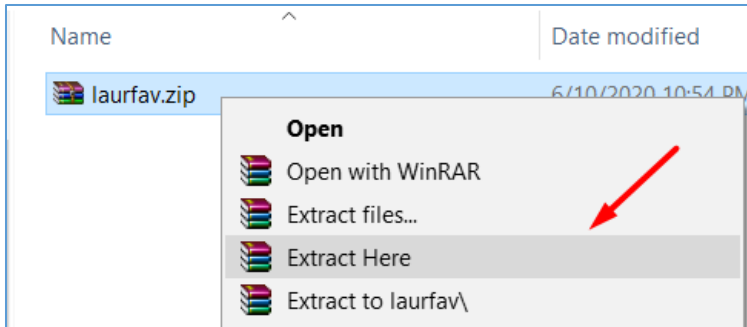
You should now see a folder called *laurfav* that contains .html files and an images folder.
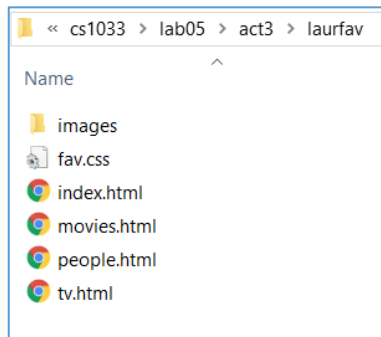
9. Open the .html files in Chrome
10. All the errors that need to be fixed are in **index.html**. Open Notepad. Then select File>Open... and make sure the File type box says All Files (*.*) as shown here:
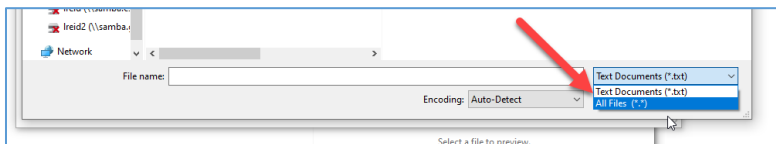
and then navigate to **lab5/act3/laurfav** and open the file called **index.html**

11. At this point, you have two options to debug the broken website:
    a. You could copy all the code between <body> and </body> into html5-editor.net and make your changes within html5-editor.net and then copy the corrected code back into Notepad, save it and test it again in Chrome to make sure you fixed the FIVE errors OR;
    b. You could edit the tags directly in Notepad if you are sure you can fix the tags without using html5-editor. Try to figure out each error and fix them and save your **index.html** file in Notepad.

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For this activity, remember to check:

- The case of the files names (i.e. UPPER case vs lower case)
- The location of the file names

Note: the case of the filenames might not make a different on your computer (Windows machines don't care about the case of a file name) but when you upload the site, the filenames will NOT display/link correctly if the case is wrong, so make sure the case is matching for all images and links. For example, it might look like you fixed the **TURNIP.jpg** problem on your Windows machine when viewing **index.html** in Chrome but it will still be broken when you upload it unless the filename in **index.html** is exactly the same spelling and case as in the images subfolder.

12. Open index.html in Chrome to double check that you have fixed all five errors.
13. Once you have fixed all the five errors, save **index.html** again.
14. To add a personalized touch to the website, in your fixed **index.html** file change the header from "WELCOME TO THE SITE ABOUT STUFF THAT LAURA LOVES!" to be "WELCOME TO THE SITE ABOUT STUFF THAT YOUR_FIRST_NAME LOVES!"
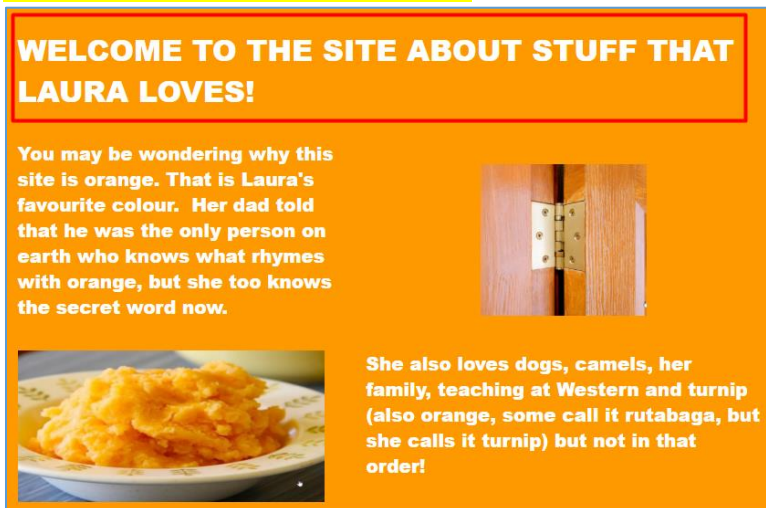
15. Once you have done that, save **index.html** again.

Uploading Lab5 Folder

Now we are going to upload your Lab5 activities to a webserver to make sure they actually work.

1. Use the Windows search tool (magnifying glass at the bottom of the Windows bar) to find and open WinSCP. You will be connecting to the Gaul server to upload the webpage to a webserver in order to test the webpage you just created on the World Wide Web and make sure it looks correct.
2. Enter the following information into WinSCP:
   a. File protocol: SFTP
   b. Host name: cs1033.gaul.csd.uwo.ca
   c. Port number: 1033
   d. User name: Your Western User ID
   e. Password: Your Western Password
3. Click Login.
4. When connected, you should see your lab01-lab04 folders (called a directory in WinSCP) that you created a few weeks ago on the Remote side (right panel). On the Remote side (the right side), create a new directory (folder) called **lab05**. Make sure this folder has its Permissions set to 0755. This is usually the default, but if, for some reason it's different, change it to 0755 now.
5. Click into the **lab05** folder.
6. In the Local side (left panel), navigate to **F:/cs1033/lab05**. Select **act1**, **act2,** and **act3** folders containing your webpages and Lab5 work and drag it across to the Remote side to upload it.
7. Open a new tab in Google Chrome and check that the following websites are working as they should:
   a. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act1/
   b. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act2/
   c. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act3/

   where **youruserid** is your own Western username.

Lab5 OWL Submission

1. In your Internet browser, go to https://owl.uwo.ca and login with your UWO username and password.
2. Go to your CS1033 OWL site.
3. On the left-side panel, click on **Week By Week**. Click on the **Week 5** button, then click on the **Lab 5** button, this will take you directly to **the Lab 5** submission area in Owl.

4. In the textbox under Submission, copy and paste your submission link which is:
   a. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act1
   b. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act2
   c. http://cs1033.gaul.csd.uwo.ca/~**youruserid**/lab05/act3
5. Click on Submit.

Remember to save all your Lab05 folder on your backup memory stick or cloud storage!