Homework 2 - Basic Operations

- Due Sep 2 by 11:59pm
- Points 15
- Submitting a text entry box or a website url
- Available Aug 20 at 5am - Dec 13 at 11:59pm

Homework 2 - Basic Operations

What you should do:

For the main page of Homework 2

- Create a web page using HTML5 with the heading Homework 2 - Basic Operations.
- Besides the heading, this page should contain:
- Hyperlink to Part 1 with a brief description of what you will present in this part
- Hyperlink to Part 2 with a brief description of what you will present in this part
- Hyperlink to Extra Credit (if you will do the extra credit)
- Hyperlink to go back to the Homework 1 web page (the main page you created for this course)
- **Think about user experience and user interface!!! Some tips:**
  - **For each page that exhibits a part of HW2, there should be a way to go to other parts of HW2 or to the home page of HW2 - the user should not need to use the back button of the browser**
  - **Do not make the user end up with many tabs/windows opened in the browser - open the pages of your site in the same tab/window and only use another tab/window if you are opening another website or web page that is not yours.**
  - **Think about what the user will be required to type and do not allow the user to type anything that would offer a "weird" final result such as NaN.**

For Part 1:

- Create a webpage that **contains a script** (meaning it should be using JavaScript to present the result) tho display the following:
  - the letters **xy** in **strong** (bold) font, with font family **Times New Roman**, and the **color red**
  - the numbers **12** that should be written in **blue color**, and font family **Arial**
  - the numbers **89** that should be written in **green color**, ***emphasized*** (in italics), and font family **Impact**
  - Each of these pairs should be separated by one blank space.
  - Your output should look like this: **xy** **12** ***89***
- Remember to include a hyperlink to go back to the Homework 2 main web page

For Part 2:

- Create a webpage with a form that will have:
  - three input boxes for the user to type three integers (numbers)
  - a button to process the data (numbers) typed by the user
  - a button to clear the form
  - a textarea to display the results of the process (or it can be a div or paragraph element below the form)
- You will write the JavaScript code that will:

- receive the data from those three input boxes for the three integers after the user click on the button to process the data
- you will calculate the **sum**, the **average**, and the **product** of the three integers
- you will also calculate the **smallest** and the **largest** of the three integers typed
  TIP: For finding the smallest and largest number, use the Math Object Methods of **min** and **max**
- you will present the results of these calculations in the text area - **DO NOT USE ALERT BOXES!!!**
- your script should not present any result if the user does not type NUMBERS in the input boxes and, instead, you should present an error message in the output (result) area.

For EXTRA CREDIT (2 extra points):

The exchange rates for 1 U.S. dollar in June 2024 were:

exchange rates

Euro	0.92
Canadian Dollar	1.38
Hong Kong Dollar	7.81
Japanese Yen	156.73
Mexican Peso	18.41

- You will use the table above and create a web page with the following layout:

Currency	Rate	Value
Euro	0.92	
Canadian Dollar	1.38	
Hong Kong Dollar	7.81	
Japanese Yen	156.73	
Mexican Peso	18.41	
Enter Amount of U.S. Dollars		

- This web page should have a script that:
  - The user will input an amount in U.S. dollars (see the last box shown in the table above).
  - The boxes, under the column **Value**, should be blocked for the user to type anything as that's where you will present the respective results based on the U.S. Dollars Amount typed in the last box of the table!
    TIP: The cells of the column **Value** should have the readonly attribute to not allow the user to type anything in those cells
  - The script will calculate (do the currency conversion) for each of the currencies displayed in the table above
    TIP: Round the amount calculated to have only 2 decimal places
  - The amounts should be presented on the same table, on a third column of the table (the column that is titled **Value** in the table above), and aligned to the right
    For example: if the user types 10 in the U.S. dollars input field, in the third column as shown in the table below (based on the proposed layout of the page) - notice that the results do not have more than 2 decimal places and are aligned to the right:

Currency	Rate	Value
Euro	0.92	9.20
Canadian Dollar	1.38	13.80
Hong Kong Dollar	7.81	78.10
Japanese Yen	156.73	1567.30
Mexican Peso	18.41	184.10
Enter Amount of U.S. Dollars	10.00	

- Use CSS to color the input text box to the right of '**Enter Amount of U.S. Dollars'** when the user clicks in that box.
  TIP: Take a look at the **:focus** pseudo-class at **MDN Web Docs :focus pseudo-class**.

To submit your homework:

1. You will create the **Homework 2 main page** with the hyperlinks mentioned - remember to create the hyperlink to go back to the main page of the course (**Homework 1**)
2. You will create **a page for each part** mentioned above **with the hyperlink to get back to Homework 2 main page** - if you will present the extra credit, remember to create a page to the extra credit too
3. You will **update the Homework 1 web page** so the **hyperlink to Homework 2 will point to the Homework 2 main page**
4. Once all the pages are created and/or updated, you will upload all the necessary files to the web server
5. Use the URL of your **Homework 1** to test your work in the browser
   1. Make sure that the **hyperlink to Homework 2** main page is working
   2. Make sure that the **hyperlinks to each part, from Homework 2 main page**, are working
   3. Make sure each part (and the extra credit if you did it) are working according to what was requested
6. If everything is ok, make sure you submit the URL of the Homework 1 page - from there I will click on the Homework 2 link to see your Homework 2 main page and then on the hyperlinks to each part to evaluate your whole work

Checklist for Grading

- I can open all your pages in the browser with no NOT FOUND or FORBIDDEN errors and you submitted the **Homework 1** page with the link to **Homework 2** updated - **1 point**
- The script of each of the pages are working and are generating the output as requested - **12 points** (6 points for each part)
- You paid attention to user experience/user interface not allowing the user to type values that would offer weird results, giving a good navigation to the users (the users do not need to use back button of the browser to go from one part to the Homework 2 main page, etc.) - **1 point**
- The HTML5 and CSS used in all pages are valid - **1 point**

Note about extra credit points: If your extra credit is complete, you will see the 2 points added to your points of the Homework 2. **If you submit late, your extra credit points will be added but will be part of the deduction that will be applied depending on how many weeks it is late - read the syllabus!**