Lab Exercise 04 – Add JavaScript to a web page

Objectives

By the end of this lab session, you will familiarize with basic programming constructs and functions in scripting languages using JavaScript (JS).

Introduction

- JavaScript is a scripting language for web-based systems.
- It can calculate, manipulate, validate data and change content in both HTML and CSS.
- There are three ways to use JS in an HTML page.
    - **JS in <head>**
      It adds JS content inside <script> tag which is in inside of the <head>.
    - **JS in <body>**
      Write functions inside body
    - **Using an external file** (preferred)
- All JavaScript **variables** must be identified with unique names along with **'var'** keyword. Ex: var person = "John Doe"
- There are 2 basic types of JS arrays.
    - **Indexed Arrays** – Access elements using numerical indexes.

      Ex: fruits = ["Banana", "Orange", "Apple", "Mango"];

    - **Associative Arrays -** Access elements using user given indexes. Ex: var vehicle = [];
      vehicle ["brand"] = "Honda";
      vehicle ["model"] =
      "fit"; vehicle
      ["number"] = 5146;

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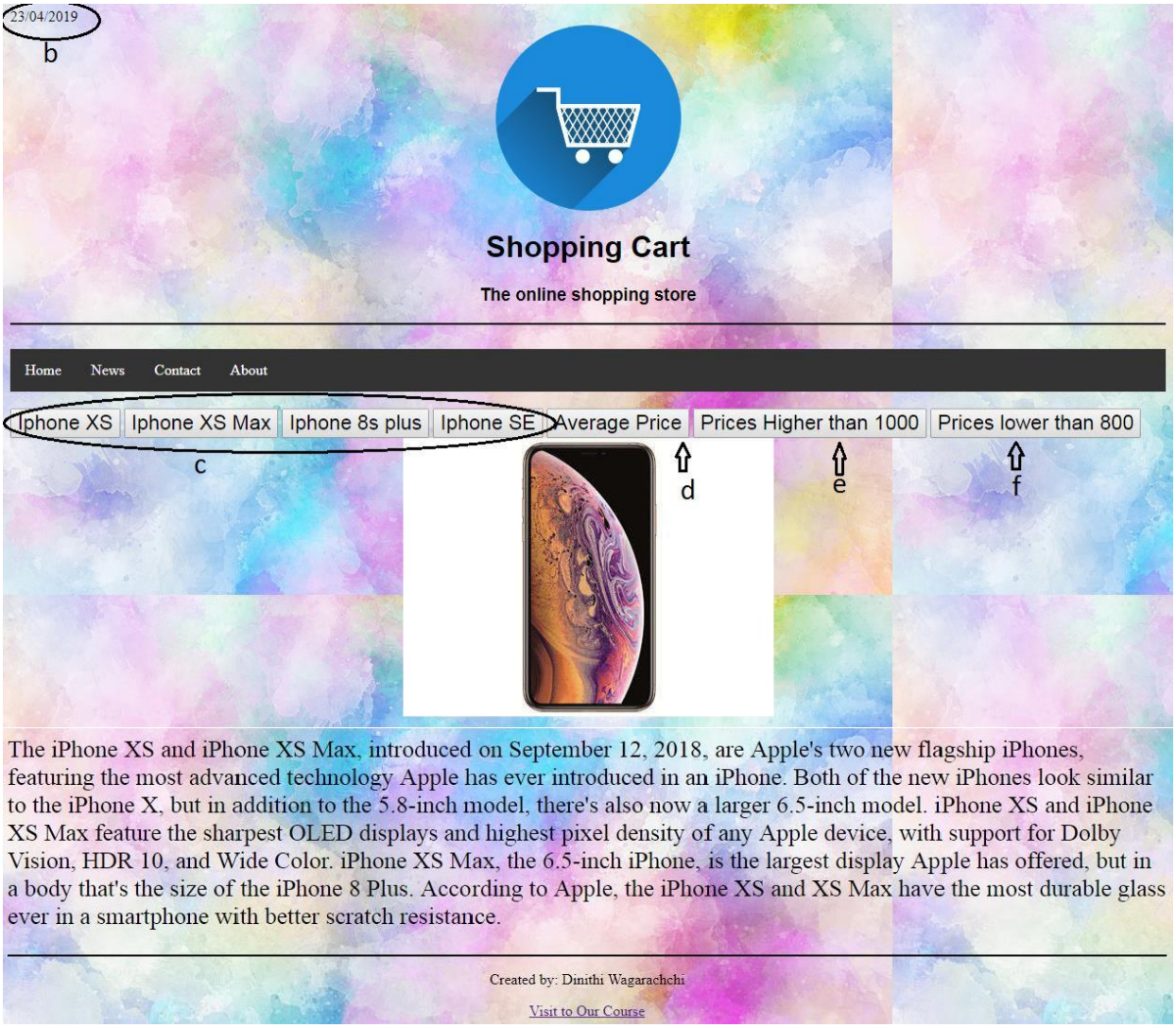
Exercise 1:

Following is the outcome of today's lab session.



- Go to the IWT folder structure which you created on the first lab session.
- Create a file named "**myScript.js**" inside the "IWT/js" folder.
- Create a file named "**news.html**" and save it inside "IWT/src" folder.
- Open the "**index.html**" file.
- Link that file to the "**NEWS**" button in the index.html

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- Copy the entire code in the "**index.html**" file and paste it in the "**news.html**".
- Delete the content between navigation bar and the footer.
- Fill the following boxes with the relevant codes for the given activities and edit the "**news.html**" file.

I. Display the Date

- Display the system date as a text in the top of the web page.
- Write JS inside the <head> tag.

https://www.w3schools.com/jsref/met_doc_write.asp

II. If/else conditional statements

- Create multiple buttons (at least 3) by product names in **news.html.**
- Create a function named loadData() inside **myScript.js.** add a string parameter into that.

  Ex – loadData(data)
- Send the name of the button when clicking that button into the above created function.
- Inside loadData(), check whether which button has clicked using if else statement.
- And display an image and text according to the selected button.

If/else - https://www.w3schools.com/js/js_if_else.asp

String comparison - https://www.w3schools.com/js/js_comparisons.asp

Change text - https://www.w3schools.com/js/js_htmldom_html.asp

Change image - https://www.w3schools.com/jsref/prop_img_src.asp

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III. Loops

a) For Loop

- Create a button named "average Price" in **news.html**.
- Create a function called priceForLoop() in **myScript.js**.
- Create an array with product name and price in the function.
  Ex – ["product X - $100", "product Y - $200"];
  Arrays - https://www.w3schools.com/js/js_arrays.asp
- Display the array elements using a for loop as shown below.
  For loop - https://www.w3schools.com/js/js_loop_for.asp

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b) For In Loop

- Redo the above function using a for-in loop and name the function as "productForInLoop()".
- Display the data as the above given example.
  https://www.w3schools.com/jsref/jsref_forin.asp

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c) For In Loop

- Create a button named "Prices higher than 1000".
- Create a function named "priceHigher()" in the **myScript.js** file.
- Call that function in the button click event.
- Create an array which contains at least 5 values (at least 2 must be higher than 1000 and 2 must be lower).
- Display the array elements which have the prices higher than 1000.

d) For In Loop

- Create a button named "Prices lower than 1000".
- Create a function named "priceLower()" in the myScript.js file.
- Call that function when the button click event.

  Copy and paste the array which has created in the above exercise.
- Display the array elements which have the prices lower than 1000.

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Exercise 2: Write a program to calculate the sum of first 10 natural numbers. (While loop)

Exercise 3: Write a for loop to display following pattern

1

2 3

4 5 6

7 8 9 10