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).
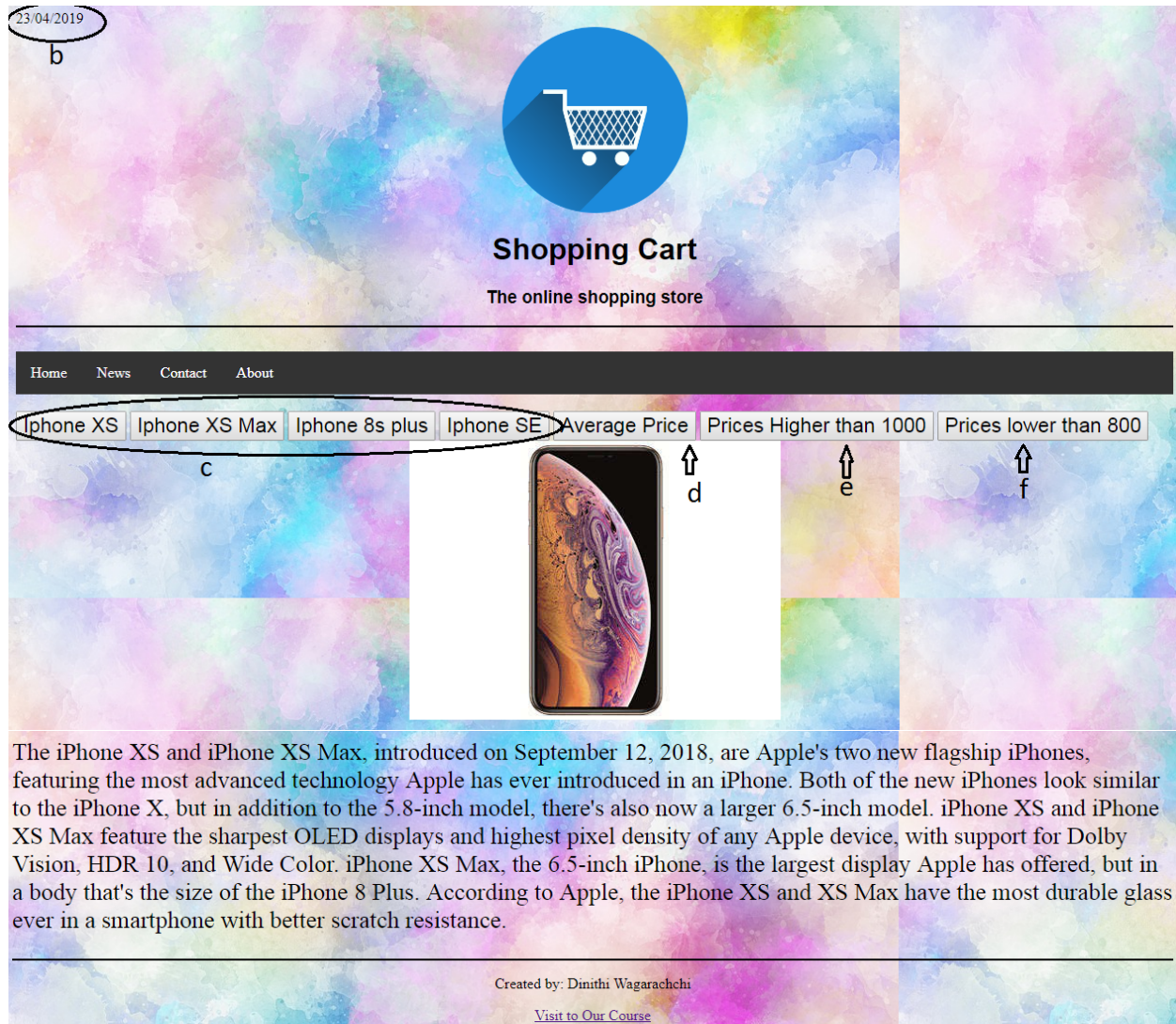
Introduction

- 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.

  o **JS in <head>**

    It adds JS content inside <script> tag which is in inside of the <head>.

  o **JS in <body>**

    Write functions inside body

  o **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.

  o **Indexed Arrays** – Access elements using numerical indexes.

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

  o **Associative Arrays -** Access elements using user given indexes.

    Ex: var vehicle = [];
            vehicle ["brand"] = "Honda";
            vehicle ["model"] = "fit";
            vehicle ["number"] = 5146;

Lab Exercise 04 – Add JavaScript to a web page

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

Lab Exercise 04 – Add JavaScript to a web page

- 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

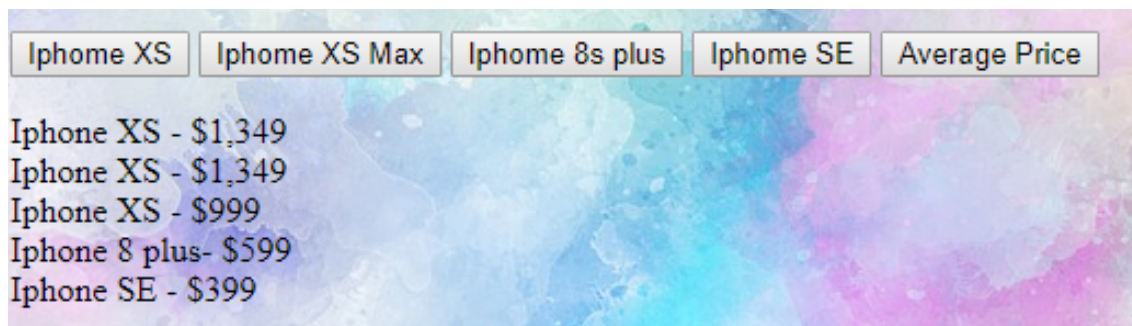   Change text - https://www.w3schools.com/js/js_htmldom_html.asp

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

Lab Exercise 04 – Add JavaScript to a web page

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

Iphome XS | Iphome XS Max | Iphome 8s plus | Iphome SE | Average Price

Iphone XS - $1,349
Iphone XS - $1,349
Iphone XS - $999
Iphone 8 plus- $599
Iphone SE - $399

Lab Exercise 04 – Add JavaScript to a web page

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

Lab Exercise 04 – Add JavaScript to a web page

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.

Lab Exercise 04 – Add JavaScript to a web page

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