**IMPLEMENTATION OF JAVASCRIPT TO CREATE HTML ELEMENT.**

**OBJECTIVE**

To implement and familiarize with JavaScript.

**THEORY**

**JavaScript**

JavaScript is the programming language. This means as a developer, he/she have control over how the program is executed; it’s not usually executed in linear fashion. Like CSS, JavaScript code should be placed in its own file. It has a .js file extension. To run the .js file in a HTML page you must reference the javascript file using <script> HTML tag. The script tag has a src attribute (like the <img> tag) that point to the javascript file. The script tags should go inside the pages <head> tag. The script tag does not need anything between <script > and </script> but both start and end tags are required.

**Math Library**

It is an intrinsic object that provides basic mathematics functionality and constants. For Examples:

* Ceil - Returns the smallest integer greater than or equal to its numeric argument.
* Random - Returns a pseudorandom number between 0 and 1.
* Floor - Returns the greatest integer less than or equal to its numeric argument.
* Sqrt - Returns the square root of a number.
* Round - Returns a supplied numeric expression rounded to the nearest integer.
* Max - Returns the larger of a set of supplied numeric expressions
* Min - Returns the smaller of a set of supplied numeric expressions.
* Pow - Returns the value of a base expression taken to a specified power.

**ACTIVITIES**

First, we created a html file with a table, tr and td in the body of it. Also we created a button on which when it is clicked, the generation of the random value and update the value in the table data ‘td’. Then we created a external Js and Css file and link it in the head of html file.

Inside CSS file, we write some css code to design the table.

Inside Js file write the code to:

* get button
* append click event to that button: function call
* if there is no table in HTML body then create one
* when button is clicked, get all the tds and generate a random number

**CODE**

**HTML:**

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<meta http-equiv="X-UA-Compatible" content="ie=edge">

<link rel="stylesheet" href="style.css">

<script type="text/javascript" src="main.js"></script>

<title>Table</title>

</head>

<body>

<!-- <table cellspacing="10" >

<tr>

<td>01</td>

<td>02</td>

<td>03</td>

<td>04</td>

<td>05</td>

</tr>

</table>

<br> -->

<button id="button">Draw Numbers</button>

</body>

</html>

**CSS:**

body{

margin: 3%;

}

table tr td

{

padding: 25px 30px;

background-color: deepskyblue;

border-radius: 50%;

font-size: 18px;

}

**JS:**

function myLoad (){

var button = document.getElementById('button');

button.addEventListener('click', generateRandomNum);

}

function makeTable (){

var table = document.createElement('table');

var tr = document.createElement('tr');

table.appendChild(tr);

for(var i = 0; i<5;i++){

var num = Math.ceil(Math.random()\*20);

var td = document.createElement('td');

var textNode = document.createTextNode(num);

td.appendChild(textNode);

tr.appendChild(td);

}

document.getElementsByTagName('body')[0].appendChild(table);

}

function generateRandomNum(){

var tables = document.getElementsByTagName('table');

if(tables.length == 0)

makeTable();

var tds = tables[0].getElementsByTagName('td');

for(var i=0; i < tds.length ;i++){

var num = Math.ceil(Math.random()\*20);

tds[i].innerHTML = num;

}

}

document.addEventListener('DOMContentLoaded', myLoad);

**SUMMARY/PROBLEM FACED**

We are able to manipulate the value of the table value and on each button click we generate a random value and change the data of table.

The main problem faced was to make a new table only once when there is no table in the HTML body.

**LAB INSTRUCTOR COMMENTS**