# Java Script

* Applying strict Usage of JavaScript : “use strict”
* Attached to an HTML: <script src=”url”> </script>
  + Eg: <script src=”tny\_script.js”> </script>
* Embedded script: <script> code </script>
* Loading the script element:
  + Defer: the defer attribute will ensure that the script will not execute until all the page content is loaded by the browser
    - Eg: <script src=”script.js” defer> </script>
  + Async: loads the JavaScriot files asynchronously as the HTML file loads
    - Eg: <script src=”script.js” async></script>

# Creating a JavaScript Program

* Comment:
  + // in-line comment text
  + /\* comment text

Multi-line Comment text \*/

* Alert: window.alert(“Hello World.”);

# JavaScript Variables and Dates

* Referencing Object Collections:
  + Eg: <img src=”image.jpg” id = “logoImg” />

<script>

document.images[0]

document.images[“logoImg”]

document.images.logoImg

</script>

* + Referencing Object by tag:
    - document.getElementsByTagName(“tag”)
      * Eg: document.getElementsByTagName(“h1”)
  + Referencing Object by calss name:
    - document.getElementsByClassName(“ClassName”)
  + Referencing Object by value name:
    - document.getElementsByName(name)
  + Referencing Object by ID :
    - Document.getElementById(id)
* Changing properties
  + Accessing an object property:
    - object.property
      * eg: document.getElementById(“username”).value
    - Changing object value:
      * Eg: document.getElementById(“username”).value = ”Tim”;
* Applying methods
  + object.method(values)
    - eg: window.alert(“Welcome”);
* Writing HTML Code
  + Element.innerHTML
    - Eg:

<div id=”daysleft”> 58<br /><span> days </span></div>

<script>

Document.getElementById(“daysleft”).innerHTML = “60<br /><span> days </span>”;

</script>

* Variables:
  + Declaring : var variable = value;
    - Eg: var currentDay = “May 3, 2020”;
    - Eg: var currentMonth = “May” , currentYear = 2018;
  + Assign the new value to the variable:
    - Eg : currentMonth = ”March”;
* Variables and Data Types
  + Numeric value ( var currentYear = 2018 ; )
  + text string ( var currentMoth = “May”; )
  + Boolean value ( var isMay = true ; )
  + Object ( var dateDiv = document.getElementById(“data”); )
  + null value (var currentDate = null ; )
* Using a variable
  + Var dateDiv = document.getElementById(“dateNow”);
  + dateDiv.innerHTML = “May 3, 2018”;

# Date Object

* Date object: new Date(“month day, year hrs:mins:secs”);
  + Eg: var thisDate = new Date(“May 23, 2020 14:55:15”);
* Define a date variable:
  + Eg: var thisDate = new Date();
  + eg: var thisDate = new Date(year, month, day, hrs, mins, secs);
* Date object methods:
  + thisDay.getSeconds()
  + thisDay.getMinutes()
  + thisDay.getHours()
  + thisDay.getDate()
  + thisDay.getMonth()
  + thisDay.getFullYear()
  + thisDay.toLocaleDateString()
  + thisDay.toLocaleTimeString()
  + …

# Operators and Operands

* + operator :
  + Eg: <img src=”imgFile.jpg” alt=’’ /> = “<img src=’” + imgFile + “ ‘ alt = ‘’ />

# Calculating the Days left in the year:

# Three way to create variable:

* var variable = “Bob”; //work for the page and changeable
* let variable=”Bob”; //only work within the scop
* const variable =”Bob”; //constant variable, can’t change

# Escaping Literal Quotes in Strings

* var tempStr = “ This is a \” quote\“. ”; ( This is a “quote”.)
* var tempStr = ‘ This is a “ quote”. ’; (This is a “quote”.)

# String

* Length of string
  + Eg: var tempStr = “ABCDEF”;

var lengthOfString = tempStr.length;

# Variable

Local scop , global scop.

Eg: var tmpStr = “abc”; // global scop

function f1(){

var tmpVar = “abc”; //local scop

tmpG = “abc”; // global scop since it does not follow the “var ”

}

# Event Handlers and Event Object

* Event handler:
  + onload: after the page has finished loading
    - eg: Windows.onload = init; // Run the init() function when the page is loaded
  + onclick : after user click on the element.
    - eg: myButton.onclick = myFunction;
  + ….
* Creating an Event Handler
  + <element onevent = “script”>
    - Eg: <body onload = “init()”>
  + Object.onevent = function;
    - Eg: window.onload = init;
* Object Properties:
  + Src attribute
    - <img id=”logoImg” src=”logo.png” />
    - document.images(“logoImg”).src=”logo.png”;
  + Maxlength attribute:
    - <input type=”text” id=”fName” maxlength=”15” />
    - Document.getElementById(“fName”).maxLength = 15 ;
* Creating Object Collections with CSS selectors
  + document.querySelectorAll(selector);
    - Eg: var objectCollection = document.querySelectorAll(“table#data”); //table#data is the css selector
  + document.querySelector(selector); // reference only the first element that matches a selector pattern.
  + Changing the background of the objectCollection
    - for( var i = 0 ; i< objectCollection.length; i++ ){

objectCollection.style.backgroundColor = “rgb(212,121,32)”;

}