Day2 Revisit

JavaScript

* JS is Programming Language of the Web (Internet)
* It’s the backbone of Internet (WebPages/WebSite)
* It gives life to web pages (Interactivity)
* Any kind of programming with respect to the Webpage, JS can do
* JS was initially a supporting language for HTML
* Now a days, you can use JS for any type of applications and Programming

Browser Consist of 3 Engines

1. HTML Rendering Engine – Responsible for producing output for HTML tags
2. JS Engine (Scripting Engine) – Responsible for executing the JS code (helps the user to interact with the webpage)
3. Styling Engine – Responsible for applying CSS styles

List of Browsers

1. Google Chrome
2. Mozilla Firefox
3. Apple Safari
4. Microsoft Edge (Internet Explorer)
5. Opera

Internet – Network of Networks

Network – Connecting two or more computers and other computer related electronic devices with the help of wires or wireless technologies.

Why Network??? – Is to share the Data and resources.

Types of Network – LAN, WAN, MAN

Every Resource connected with network will have an address. This address is called as IP address.

IP – Internet Protocol Address (Unique)

Home Address, Office Address, College Address (Numbers, text --- Door/Building/Apt No, Street Name, City, Zip code, State, Country)

IPv4, IPv6

IPv4 = (122.76.89.115) -- URL [Uniform Resource Locator]

Client – Server Concepts

Client Sends Request.

Servers receives the Request and process it.

Servers generate a response for each request and sent it back to the place from where it received the request.

Google.com

JS Objects –

3 ways of Creating JS Objects

1. Using Object and new Keyword
2. Using Object class constructor (New Keyword)
3. Directly assigning values inside curly braces (flower brackets) {}

JS Arrays – It’s a data structure to store the data in continuous memory (It allows storing similar type of data in a continuous memory location)

Adv of Array – Adding & removing element at the end is very easy.

3 ways of creating Arrays in JS []

1. Array Literal (Variable)
2. Creating instance of Array object (using new keyword)
3. Using Array Constructor (using new keyword)

JS is Multi – Paradigm Programming Lang

POP – Procedure Oriented Programming

OOP – Object Oriented Programming

OBP – Object based Programming

Async Programming

Statements in JS

1. Normal Statement (Executes line by line) – default flow
2. Conditional Statement (Depending upon the condition result, either a set/block of codes can be executed or skipped [if, if .. else, nested if, switch]
3. Repetitive Statement (Looping Statement) [for, while, do while, for in, for of)

Pass by Value & Pass by Reference in JS

Symbols used to represents string

` = back tick symbol

‘ = single quote symbol

“ = double quote symbol

Function in JS

Function **parameters** are listed inside the parentheses () in the function definition.

Function **arguments** are the **values** received by the function when it is invoked.

Inside the function, the arguments (the parameters) behave as local variables.

Scoping – It tells how long and where we can use certain type of variable.

Global Scope, - Can be accessed anywhere

Local /Block Scope – can be accessed within the block only.

Alert & prompt (Pre-defined functions in JS)

Alert is used to display a message

Prompt is used to get input from user.

Truthy and Falsy in JS

There are 6 values that are considered **falsy** in JavaScript:

* The keyword false
* The primitive value undefined
* The primitive value null
* The empty string ('', "")
* The global property NaN
* A number or BigInt representing 0 (0, -0, 0.0, -0.0, 0n)

Every other value is considered **truthy**. It's important to remember that this applies to all JavaScript values, even ones that might seem falsy, such as empty arrays ([]) or empty objects ({}).

JS Hoisting – All the variable and function declarations will be moved to top automatically enabling to use a variable or function before declaring it.

IIFE – Immediately Invoked Function Expressions

Immediately Invoked functions

Types of functions

1. Simple functions
2. Anonymous functions
3. Arrow functions
4. IIFE (Immediately Invoked function expressions)
5. Callback functions
6. Function expressions

Closure = Inner function (A function declared inside another function)

<https://blog.bitsrc.io/how-does-javascript-really-work-part-1-7681dd54a36d>

Template String / Template Literal /Back Tick String

Using back tick symbol instead of Single or double quotes in a String is called Template String or Template Literal.

Usage

1. It allows multi line string
2. It preserves spaces
3. Single and double quotes are allowed in Template Literal
4. It accepts Interpolation syntax

Example

Demo = ` This is a String Template or Template Literal `;

ES6 features

1. Let and const keyword
2. Template Literals
3. Arrow functions
4. Default parameters
5. Multi-line Strings
6. Enhanced Objects (Creating object with the help of class keyword)
7. Promises
8. Destructuring assignments

JS DOM Manipulation

Important methods

1. Document.getElementById(“id\_name”) – It selects single element
2. Document.getElementsByName(“Name”) – It returns multiple elements with the same name.
3. Document.getElementsByTagName(“tag\_name”) {}
4. Document.getElementsByName(“ “)
5. Document.getElementsByClassName ()

For in Loop & For of Loop

For in --- used to traverse through all the properties of an object

For of --- Used to traverse group of objects one by one.

Arrow Functions (Similar to Lambda in JAVA)

In JS (Fat Arrow) => symbol is used for arrow functions

Arrow function is anonymous (nameless) function == Function written in a single line.

Arrow function work in async mode.

Regular function syntax :

function <func\_name>()

{ // function boy starts here

….

….

} // function body ends here

Arrow function (Nameless)

()=> { }; (simple arrow function syntax) [No Argument, no return]

(a)=>{}; (One Argument arrow function)

(a,b)=> { }; (Multi argument arrow function)

* Get two numbers from users and find the sum of both the values. Print result in console only.
* Create a HTML form to get two numbers from user and add them using DOM
* Create a HTML form to get user details like firstName, lastName, dateOfBirth (clear, add) and add it to the array. Finally display all the user inputs in table format.

Upload the code to github. Repo. Under day3 assignments