Module 3: Pre-Read Java Script Study Materials

- **Topics to read:**
    1. JS Basic
        - Syntax
        - Variables
        - Arithmetic, Operators
        - Datatypes
        - Conditional statements
        - Functions
        - Strings functions/methods

    2. JS Advanced
        - Arrays
        - Loops
        - Objects, Events
        - Hoisting
        - Classes
        - Scope

- **Resources:**

    https://www.w3schools.com/js/
    https://www.javascripttutorial.net/
    https://www.w3resource.com/course/javascript-course.html#/
    https://www.geeksforgeeks.org/javascript/?ref=ghm
    https://www.youtube.com/watch?v=W6NZfCO5SIk
    https://www.youtube.com/watch?v=hdl2bqOjy3c

- **Self-evaluation:** https://www.w3schools.com/js/js_exercises.asp

● **Assignments for practice:**

<u>Level 1 - Let's Begin</u>

1. Javascript Program to Check if a Number is Odd or Even.

2. Javascript Program to Convert temperature from Celsius to Fahrenheit.
   Formula - fahrenheit = celsius * 1.8 + 32

3. JavaScript Program to Find the Largest Among Three Numbers.

4. JavaScript Program to print the multiplication table for a number.

5. JavaScript Program to Check if a Number is prime or not.

<u>Level 2 - Practice more</u>

1. JavaScript Program to print the Factorial of a Number
   (Factorial of 5 = 5 * 4 * 3 * 2 * 1 = 120)

2. JavaScript Program to print the Fibonacci series.
   Fibonacci series is a series of numbers where a number is the addition of the last two numbers, starting with 0, and 1.
   0, 1, 1, 2, 3, 5, 8, 13, 21 ......

3. JavaScript Program to find whether the string is palindrome or not.
   A string is called a palindrome string if the reverse of that string is the same as the original string.
   dad = dad (palindrome)
   cat ≠ tac (not palindrome)

4. JavaScript program to print the frequency of a character in a string.

5. JavaScript program to sort the elements of the array (without using sort function).

● **Assignment Project 3:**

1. JavaScript Program to calculate number of days between 2 Dates.

2. JavaScript Program to find the missing number in a given integer array of 1 to 100

3. JavaScript program to reverse the string using recursion.

4. JavaScript program to create an object Student with 3 keys (name, id, city) and give them values. Write the code to perform the following actions:

   i. Check if the key "name" exists in the object

   ii. Change the value of the key

5. JavaScript program to find the cumulative sum of an array.

   1. Initial Array: [1, 2, 3, 4]

   2. Cumulative Sum: [1, 3, 6, 10]

   3. Explanation: [1, (1+2), (1+2+3), (1+2+3+4)]

6. Javascript program to sort an array using the following techniques:

   i. Linear Sort

   ii. Quick Sort

   iii. Bubble Sort