JS Assignment 1 (DTS Batch-3)

HTML Code:

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="UTF-8">

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

    <title>Document</title>

</head>

<body>

    <script src="script.js"></script>

</body>

</html>

JS Code:

// Problem Statement 1: Declare variables using let, const, var and demonstrate it's usage

let x=10;

const y=20;

var z=30;

console.log(x,y,z);

console.log("\*\*\*\*\*")

// Problem Statement 2: Accept any type of data as input and checks it's datatype using typeof, type coercion (add numbers)

function checkType (input){

    if (typeof input==="number"){

        console.log("It's a "+typeof input+" type and after adding, the result is "+(input+10));

    } else {

        console.log(typeof input);

    }

}

checkType(15);

checkType("Hello");

console.log("\*\*\*\*\*")

// Problem Statement 3: Accepts a day of week (1-7) and prints corresponding weekdays

function getWeekday(day){

    const days=["Sunday","Monday","Tuesday","Wednesday","Thursday","Friday","Saturday"];

    console.log(days[day-1]||"Invalid day");

}

getWeekday(3);

getWeekday(8);

console.log("\*\*\*\*\*")

// Problem Statement 4: Find sum of even and odd numbers

function sumEvenOdd(arr){

    let evenSum=0,oddSum=0;

    arr.forEach(num=>{

        if (num%2===0){

            evenSum+=num;

        } else {

            oddSum+=num;

        }

    });

    console.log({evenSum,oddSum});

}

sumEvenOdd([1, 2, 3, 4, 5, 6]);

console.log("\*\*\*\*\*")

// Problem Statement 5: Arrow functions that accepts a sentence and counts no.of words

const countWords=sentence=>sentence.split(" ").length;

const sentencecount = "JavaScript is a dynamic programming language.";

console.log("Number of words in the sentence:", countWords(sentencecount));

console.log("\*\*\*\*\*")

// Problem Statement 6: Arrow function that takes an array of numbers and returns count of +ve and -ve no.s

const countPosNeg=arr=>{

    let pos=0,neg=0;

    arr.forEach(num=>{

        if (num>0){

            pos++;

        } else if(num<0){

            neg++;

        }

    });

    return{positive:pos,negative:neg};

};

const testArray = [-3, 4, -2, 7, 0, -8];

const result = countPosNeg(testArray);

console.log("Count of positive numbers:", result.positive);

console.log("Count of negative numbers:", result.negative);

console.log("\*\*\*\*\*")

// Problem Statement 7: Book Class with Getter and Setter and Inheritance with Ebook

class Book {

    #title;

    #author;

    constructor(bookid, title, author, pages) {

        this.bookid = bookid;

        this.#title = title;

        this.#author = author;

        this.pages = pages;

    }

    get title() {

        return this.#title;

    }

    set title(newTitle) {

        this.#title = newTitle;

    }

    get author() {

        return this.#author;

    }

    set author(newAuthor) {

        this.#author = newAuthor;

    }

    info() {

        console.log(`BookID: ${this.bookid}, Title: ${this.#title}, Author: ${this.#author}, Pages: ${this.pages}`);

    }

}

class Ebook extends Book {

    constructor(bookid, title, author, pages, filesize) {

        super(bookid, title, author, pages);

        this.filesize = filesize;

    }

    download() {

        console.log(`Downloading the eBook: ${this.title} of size ${this.filesize} MB...`);

    }

    info() {

        super.info();

        console.log(`Filesize: ${this.filesize} MB`);

    }

    success(){

        console.log(`Downloaded eBook of ${this.title} of size ${this.filesize} MB successfully`)

    }

}

const b1 = new Book(1, 'Wings of Feather', 'Dr APJ Abdul Kalam', 300);

b1.info();

const ebook1 = new Ebook(2, 'Learning JavaScript', 'John Doe', 250, 5);

ebook1.info();

ebook1.download();

ebook1.success();

OUTPUT:

