Java Script Assignment

Q.1 Using console.log() print out the following statement: The quote 'There is no exercise better for the heart than reaching down and lifting people up.' by John Holmes teaches us to help one another. Using console.log() print out the following quote by Mother Teresa:

Ans :

1. console.log("The quote 'There is no exercise better for the heart than reaching down and lifting people up.' by John Holmes teaches us to help one another.");
2. console.log("Mother Teresa once said, \"Spread love everywhere you go. Let no one ever come to you without leaving happier.\"");

Q.2 Check if typeof '10' is exactly equal to 10. If not make it exactly equal?

Ans :

The string '10' is not the same type as the number 10.

Console.log (type of ‘ 10 ’); “string”

Console.log (type of 10); // “number”

Q.3 Write a JavaScript Program to find the area of a triangle?

Ans :

Function findTriangleArea (base, height){

Return 0.5 \* base \* height;

}

Let base = 10;

Let height = 5;

// print the result

Console.log (“The area of the Triangle is : ” + area );

Q.4 Write a JavaScript program to calculate days left until next Christmas?

Ans :

function daysUntilChristmas(){

let today = new Date();

let year = today.getFullYear();

let Christmas Date = new date (year, 11,25);

if (today > Christmas Date) { christmas Date = new Date(year + 1, 11, 25);

let time Difference = Christmas Date - today;

let days Left = Math.ceil(time Difference / (1000 \* 60 \* 60 \* 24));

return days Left;

}

console.log("Days left until next Christmas: " + daysUntilChristmas());

Q.5 What is Condition Statement?

Ans :

1. if statement
2. If – else statement
3. If – else if – else statement
4. Switch statement

Q.6 Find circumference of Rectangle formula : C = 4 \* a ?

Ans :

For a rectangle, the formula is : C = 2 × ( L + w )

If length = 10 and width = 5:

C 2 × ( 10 + 5 ) = 30

Q.7 WAP to convert years into days and days into years?

Ans: function daysToDays(year){

Return years \* 365;

}

Function daysToYear(days){

Return days / 365;

}

Let years = 2;

Let days = 730;

Console.log( years + “ years is ” yearToDays( years ) + “ days. ” )

Console.log (days + “ days is ” + daysToYears(days).toFixed(2) + “ years. ” );

Q.8 Convert temperature Fahrenheit to Celsius? (Conditional logic Question)

Ans :

function fahrenheitToCelsius(fahrenheit) {

if (typeof fahrenheit === "number") {

return ((fahrenheit - 32) / 1.8).toFixed(2);

} else {

return "Invalid input. Please enter a number.";

}

}

let temperatureF = 98;

console.log(temperatureF + "°F is " + fahrenheitToCelsius(temperatureF) + "°C.");

Q.9 Write a JavaScript exercise to get the extension of a filename.?

Ans :

function getFileExtension(filename) {

if (filename.includes(".")) {

return filename.split(".").pop();

} else {

return "No extension found.";

}

}

// Example usage

let file1 = "document.pdf";

let file2 = "image.jpeg";

let file3 = "file\_without\_extension";

console.log("The extension of '" + file1 + "' is: " + getFileExtension(file1));

console.log("The extension of '" + file2 + "' is: " + getFileExtension(file2));

console.log("The extension of '" + file3 + "' is: " + getFileExtension(file3));

Q.10 What is the result of the expression (5 > 3 && 2 < 4)?

Ans : True

Q.11 What is the result of the expression (true && 1 && "hello")?

Ans : True

Q.12 What is the result of the expression true && false || false && true?

Ans : False

Q.13 Check Number Is Positive or Negative in JavaScript?

Ans :  
function checkNumber(num) {

if (num > 0) {

console.log(num + " is positive.");

} else if (num < 0) {

console.log(num + " is negative.");

} else { console.log("The number is zero.");

} }

checkNumber(5);

checkNumber(-3);

checkNumber(0);

Q.14 Find the Character Is Vowel or Not ?

Ans :  
function checkVowel(character) {

let lowerChar = character.toLowerCase();

if (lowerChar === 'a' || lowerChar === 'e' || lowerChar === 'i' || lowerChar === 'o' || lowerChar === 'u') {

console.log(character + " is a vowel.");

} else {

console.log(character + " is not a vowel.");

}

}

// Example usage:

checkVowel('A');

checkVowel('b');

checkVowel('O');

checkVowel('z');

Q.15 Write to check whether a number is negative, positive or zero?

Ans :

function checkNumber(num) {

if (num > 0) {

console.log(num + " is positive.");

} else if (num < 0) {

console.log(num + " is negative.");

} else {

console.log("The number is zero.");

}

}

// Example usage:

checkNumber(5);

checkNumber(-3);

checkNumber(0);

Q.16 Write to find number is even or odd using ternary operator in JS?

Ans :

function checkEvenOdd(num) {

let result = (num % 2 === 0) ? "Even" : "Odd";

console.log(num + " is " + result);

}

// Example usage:

checkEvenOdd(4); // Output: 4 is Even

checkEvenOdd(7); // Output: 7 is Odd

Q.17 Write find maximum number among 3 numbers using ternary operator in JS?

Ans :

function findMax(num1, num2, num3) {

let max = (num1 > num2 && num1 > num3) ? num1 : (num2 > num3 ? num2 : num3);

console.log("The maximum number is: " + max);

}

// Example usage:

findMax(10, 20, 15);

Q.18 Write to find minimum number among 3 numbers using ternary operator in JS?

Ans :

function findMin(num1, num2, num3) {

let min = (num1 < num2 && num1 < num3) ? num1 : (num2 < num3 ? num2 : num3);

console.log("The minimum number is: " + min);

}

// Example usage:

findMin(10, 5, 8);

Q.19 Write to find the largest of three numbers in JS?

Ans :

function findLargest(num1, num2, num3) {

let largest = (num1 > num2 && num1 > num3) ? num1 : (num2 > num3 ? num2 : num3);

console.log("The largest number is: " + largest);

}

// Example usage:

findLargest(10, 20, 15);

Q.20 Write to show

i. Monday to Sunday using switch case in JS?

Ans :

function getDayOfWeek(day) {

switch(day) {

case 1:

console.log("Monday");

break;

case 2:

console.log("Tuesday");

break;

case 3:

console.log("Wednesday");

break;

case 4:

console.log("Thursday");

break;

case 5:

console.log("Friday");

break;

case 6:

console.log("Saturday");

break;

case 7:

console.log("Sunday");

break;

default:

console.log("Invalid day number. Please enter a number between 1 and 7.");

}

}

ii. Vowel or Consonant using switch case in JS?

Ans :

function checkVowelOrConsonant(char) {

let lowerChar = char.toLowerCase();

switch(lowerChar) {

case 'a':

case 'e':

case 'i':

case 'o':

case 'u':

console.log(char + " is a vowel.");

break;

default:

console.log(char + " is a consonant.");

}

}

// Example usage:

checkVowelOrConsonant('A'); // Output: A is a vowel.

checkVowelOrConsonant('b');

**(Conditional looping logic Question)**

Q.21 What are the looping structures in JavaScript? Any one Example?

Ans :

For ( let I =1; I <=5; I ++ ){

Console.log( I );

}

Output : 1,2,3,4,5;

Q.22 Write a print 972 to 897 using for loop in JS?

Ans :

For (let I = 972; I >=897; I --){

Console.log( I );

}

Q.23 Write to print factorial of given number?

Ans :

Function factorial( num) {

Let result = 1;

For( let I = 1; I <= num; i++ ){

Result \*=I;   
}

Return result;

}

// example usage

Let number = 5;

Console.log (“The factorial of + number + “ is :” + factorial (number));

Q.24 Write to print Fibonacci series up to given numbers?

Ans :

// Function to print Fibonacci series

function printFibonacci(n) {

let a = 0, b = 1, next;

console.log("Fibonacci series:");

for (let i = 1; i <= n; i++) {

console.log(a);

next = a + b;

a = b;

b = next;

}

}

// Example usage:

let terms = 10;

printFibonacci(terms);

Q.25 Write to print number in reverse order e.g.: number = 64728 ---> reverse =82746 in JS?

Ans :

function reverseNumber(number) {

let reversed = number.toString().split('').reverse().join('');

return parseInt(reversed);

}

let number = 64728; // Input number

console.log("Original number: " + number);

console.log("Reversed number: " + reverseNumber(number));

Q.26 Write a program make a summation of given number (E.g., 1523 Ans: - 11) in JS?

Ans :

function sumOfDigits(number) {

let sum = 0;

let digits = number.toString().split('');

for (let digit of digits) {

sum += parseInt(digit);

}

return sum;

}

// Example usage:

let number = 1523; // Input number

console.log("The summation of digits of " + number + " is: " + sumOfDigits(number));

Q.27 Write a program you have to make a summation of first and last Digit. (E.g., 1234 Ans: - 5) in JS?

Ans :

function sumFirstAndLastDigit(number) {

let digits = number.toString();

let firstDigit = parseInt(digits[0]);

let lastDigit = parseInt(digits[digits.length - 1]);

return firstDigit + lastDigit;

}

let number = 1234;

console.log("The sum of the first and last digits of " + number + " is: " + sumFirstAndLastDigit(number));

Q.28 Use console.log() and escape characters to print the following pattern in JS?

Ans :

Console.log ( “ 1 1 1 1 1 ” );

Console. log(“ 2 1 2 4 8 ”);

Console. log(“3 1 3 9 2 7”);

Console. log(“4 1 4 16 64”);

Console. log(“5 1 5 25 125”);

Q.29 Use pattern in console.log in JS?

Ans :(1).

Console.log(“1 0”);

Console.log(“1 0 1”);

Console.log(“1 0 1 0”);

Console.log(“1 0 1 0 1”);

(2).

Console.log(“A”);

Console.log(“B C D”);

Console.log(“E F”);

Console.log(“G H I J”);

Console.log(“K L M N O”);

(3).

Console.log(“1”);

Console.log(“2 3”);

Console.log(“4 5 6”);

Console.log(“7 8 9 10”);

Console.log(“11 12 13 14 15”);

(4).

Console.log(\*);

Console.log(\* \*);

Console.log(\* \* \*);

Console.log(\* \* \* \*);

Console.log(\* \* \* \* \*);

Q.30 Accept 3 numbers from user using while loop and check each numbers palindrome

Ans :

function isPalindrome(number) {

let original = number.toString();

let reversed = original.split('').reverse().join('');

return original === reversed;

}

let count = 0;

let numbers = [];

while (count < 3) {

let number = parseInt(prompt("Enter a number:"));

numbers.push(number);

count++;

}

numbers.forEach((num) => {

if (isPalindrome(num)) {

console.log(num + " is a palindrome.");

} else {

console.log(num + " is not a palindrome.");

}

});

Q.31 Write a JavaScript Program to display the current day and time in the following format. Sample Output: Today is Friday. Current Time is 12 PM: 12 : 22 2 ?

Ans :

function displayCurrentDayAndTime() {

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

let now = new Date();

let today = days[now.getDay()];

let hours = now.getHours();

let minutes = now.getMinutes();

let seconds = now.getSeconds();

let period = hours >= 12 ? "PM" : "AM";

hours = hours % 12 || 12; // Convert 0 to 12 for midnight

console.log(`Today is ${today}.`);

console.log(`Current Time is ${hours} ${period}: ${minutes} : ${seconds}`);

}

Q.32 Write a JavaScript program to get the current date?

Ans :

function getCurrentDate() {

let currentDate = new Date();

console.log("Current Date: " + currentDate.toLocaleDateString());

}

getCurrentDate();

Q.33 Write a JavaScript program to compare two objects?

Ans :

function compareObjects(obj1, obj2) {

// Get the keys of both objects

let keys1 = Object.keys(obj1);

let keys2 = Object.keys(obj2);

are not the same

if (keys1.length !== keys2.length) {

return false;

}

for (let key of keys1) {

if (obj1[key] !== obj2[key]) {

return false;

}

}

return true;

}

let object1 = { name: "John", age: 30 };

let object2 = { name: "John", age: 30 };

let object3 = { name: "Jane", age: 25 };

console.log(compareObjects(object1, object2)); // Output: true

console.log(compareObjects(object1, object3)); // Output: false

Q.34 Write a JavaScript program to convert an array of objects into CSV string?

Ans :

function convertToCSV(array) {

const headers = Object.keys(array[0]);

const rows = array.map(obj =>

headers.map(header => obj[header]).join(',')

);

return [headers.join(','), ...rows].join('\n');

}

const arrayOfObjects = [

{ name: "John", age: 30, city: "New York" },

{ name: "Jane", age: 25, city: "Los Angeles" },

{ name: "Tom", age: 35, city: "Chicago" }

];

const csvString = convertToCSV(arrayOfObjects);

console.log(csvString);

Q.35 Write a JavaScript program to capitalize first letter of a string?

Ans :

function capitalizeFirstLetter(str) {

if (str.length === 0) return str;

return str.charAt(0).toUpperCase() + str.slice(1);

}

let inputString = "hello world";

let capitalizedString = capitalizeFirstLetter(inputString);

console.log(capitalizedString); // Output: "Hello world"

Q. 45 Write a JavaScript program to determine if a variable is array?

Ans :

function isArray(variable) {

return Array.isArray(variable);

}

let arr = [1, 2, 3];

let notArr = {name: "John", age: 30};

console.log(isArray(arr)); => true

console.log(isArray(notArr)); => false

Q.46 Write a JavaScript program to clone an array?

Ans :

function cloneArray(arr) {

return arr.slice();

}

let originalArray = [1, 2, 3, 4];

let clonedArray = cloneArray(originalArray);

console.log(clonedArray); => Output: [1, 2, 3, 4]

Q.47 What is the drawback of declaring methods directly in JavaScript objects?

Ans :

class Person {

constructor(name) {

this.name = name;

}

greet() {

console.log("Hello, " + this.name);

}

}

let person1 = new Person("Alice");

let person2 = new Person("Bob");

person1.greet(); // "Hello, Alice"

person2.greet(); // "Hello, Bob"

Q.48 Print the length of the string on the browser console using console.log()?

Ans :

let myString = "Hello, World!";

console.log(myString.length);

Output => 13

Q.49 Change all the string characters to capital letters using toUpperCase() method?

Ans :

let myString = "hello, world!";

let upperCaseString = myString.toUpperCase();

console.log(upperCaseString);

Q.50 What is the drawback of declaring methods directly in JavaScript objects?

Ans :

let car1 = {

make: "Toyota",

startEngine: function() { console.log("Engine started!"); }

};

let car2 = {

make: "Honda",

startEngine: function() { console.log("Engine started!"); }

};

class Car {

constructor(make) {

this.make = make;

}

startEngine() {

console.log("Engine started!");

}

}

let car1 = new Car("Toyota");

let car2 = new Car("Honda");

car1.startEngine(); // "Engine started!"

car2.startEngine(); // "Engine started!"

.51 Write a JavaScript program to get the current date. Expected Output : mm-ddyyyy, mm/dd/yyyy or dd-mm-yyyy, dd/mm/yyyy?

Ans :

let today = new Date();

let day = today.getDate();

let month = today.getMonth() + 1;

let year = today.getFullYear();

if (day < 10) {

day = '0' + day;

}

if (month < 10) {

month = '0' + month;

}

let formattedDate1 = month + '-' + day + '-' + year; // mm-dd-yyyy

let formattedDate2 = month + '/' + day + '/' + year; // mm/dd/yyyy

let formattedDate3 = day + '-' + month + '-' + year; // dd-mm-yyyy

let formattedDate4 = day + '/' + month + '/' + year; // dd/mm/yyyy

// Output the formatted dates

console.log("mm-dd-yyyy:", formattedDate1);

console.log("mm/dd/yyyy:", formattedDate2);

console.log("dd-mm-yyyy:", formattedDate3);

console.log("dd/mm/yyyy:", formattedDate4);

Q.52 Use indexOf to determine the position of the first occurrence of a in 30 Days Of JavaScript?

Ans :

let str = "30 Days Of JavaScript";

let position = str.indexOf('a');

// Print the result

console.log(position);

Q,53 Use lastIndexOf to determine the position of the last occurrence of a in 30 Days Of JavaScript?

Ans :

let str = "30 Days Of JavaScript";

let position = str.lastIndexOf('a');

console.log(position);

Q.54 Form Validtion in JS?

Ans :

<!DOCTYPE html>

<html>

<head>

<title>Form Validation</title>

</head>

<body>

<form id="myForm" onsubmit="return validateForm()">

<label for="name">Name:</label>

<input type="text" id="name" name="name"><br><br>

<label for="email">Email:</label>

<input type="email" id="email" name="email"><br><br>

<button type="submit">Submit</button>

</form>

<script>

function validateForm() {

let name = document.getElementById("name").value;

let email = document.getElementById("email").value;

// Check if name is empty

if (name === "") {

alert("Name is required.");

return false;

}

// Check if email is empty

if (email === "") {

alert("Email is required.");

return false;

}

// If everything is correct, allow the form to submit

alert("Form submitted successfully!");

return true;

}

</script>

</body>

</html>

Q.55 Form in Email, number, Password, Validation?

Ans :

<!DOCTYPE html>

<html>

<head>

<title>Form Validation</title>

</head>

<body>

<h3>Form with Validation</h3>

<form id="myForm" onsubmit="return validateForm()">

<!-- Email Field -->

<label for="email">Email:</label>

<input type="email" id="email" name="email"><br><br>

<!-- Number Field -->

<label for="number">Number:</label>

<input type="number" id="number" name="number"><br><br>

<!-- Password Field -->

<label for="password">Password:</label>

<input type="password" id="password" name="password"><br><br>

<!-- Submit Button -->

<button type="submit">Submit</button>

</form>

<script>

function validateForm() {

// Get form values

let email = document.getElementById("email").value;

let number = document.getElementById("number").value;

let password = document.getElementById("password").value;

// Email Validation

if (email === "") {

alert("Email is required.");

return false;

} else if (!email.includes("@")) {

alert("Enter a valid email address.");

return false;

}

// Number Validation

if (number === "") {

alert("Number is required.");

return false;

} else if (isNaN(number)) {

alert("Enter a valid number.");

return false;

}

// Password Validation

if (password === "") {

alert("Password is required.");

return false;

} else if (password.length < 6) {

alert("Password must be at least 6 characters long.");

return false;

}

// If all validations pass

alert("Form submitted successfully!");

return true;

}

</script>

</body>

</html>

Q.56 Dynamic Form Validation in JS?

Ans :

<!DOCTYPE html>

<html>

<head>

<title>Dynamic Form Validation</title>

<style>

.error {

color: red;

font-size: 12px;

}

</style>

</head>

<body>

<h3>Dynamic Form Validation</h3>

<form id="dynamicForm">

<!-- Email Field -->

<label for="email">Email:</label>

<input type="email" id="email" name="email">

<span id="emailError" class="error"></span><br><br>

<!-- Number Field -->

<label for="number">Number:</label>

<input type="number" id="number" name="number">

<span id="numberError" class="error"></span><br><br>

<!-- Password Field -->

<label for="password">Password:</label>

<input type="password" id="password" name="password">

<span id="passwordError" class="error"></span><br><br>

<!-- Submit Button -->

<button type="submit">Submit</button>

</form>

<script>

document.getElementById("email").addEventListener("input", function () {

let email = this.value;

let error = document.getElementById("emailError");

if (email === "") {

error.textContent = "Email is required.";

} else if (!email.includes("@")) {

error.textContent = "Enter a valid email.";

} else {

error.textContent = "";

}

});

document.getElementById("number").addEventListener("input", function () {

let number = this.value;

let error = document.getElementById("numberError");

if (number === "") {

error.textContent = "Number is required.";

} else if (isNaN(number)) {

error.textContent = "Enter a valid number.";

} else {

error.textContent = "";

}

});

document.getElementById("password").addEventListener("input", function () {

let password = this.value;

let error = document.getElementById("passwordError");

if (password === "") {

error.textContent = "Password is required.";

} else if (password.length < 6) {

error.textContent = "Password must be at least 6 characters.";

} else {

error.textContent = "";

}

});

// Final validation on form submit

document.getElementById("dynamicForm").addEventListener("submit", function (e) {

if (document.querySelectorAll(".error:empty").length !== 3) {

e.preventDefault(); // Stop form submission if errors exist

alert("Please fix errors before submitting.");

}

});

</script>

</body>

</html>

Q.57 how many type of JS Event? How to use it ?

Ans :

[1] Mouse Event

Click : Triggered on a element is clicked.

Dbclick : Triggered on a double-click.

Mousedown : Triggered when a mouse button is pressed.

Mouseup: Triggered when a mouse button is released.

Mouseover: Triggered when the mouse pointer moves over an element.

Mouseout :Triggered when the mouse pointer leaves an element.

[2]Keyboard Event

Keydown : Triggered when a key is pressed.

Keyup: Triggered when a key is released.

Keypress: Triggered while a key is being pressed.

[3]. Form Event:

 **submit**: Triggered when a form is submitted.

 **focus**: Triggered when an element gains focus.

 **blur**: Triggered when an element loses focus.

 **change**: Triggered when the value of an input changes.

[4].Window Event

 **load**: Triggered when the page or an image finishes loading.

 **resize**: Triggered when the browser window is resized.

 **scroll**: Triggered when the user scrolls the page.

 **unload**: Triggered when the user leaves the page.

[5]. Touch Event(for mobile)

 **touchstart**: Triggered when a finger touches the screen.

 **touchend**: Triggered when a finger leaves the screen.

 **touchmove**: Triggered when a finger moves on the screen.

Q.60 What is Bom vs Dom in JS?

Ans :

**1. BOM (Browser Object Model):**

The **Browser Object Model** allows JavaScript to interact with the browser. It provides objects that represent the browser window and its features like navigation, screen, location, history, etc.

**2. DOM (Document Object Model):**

The **Document Object Model** allows JavaScript to interact with and manipulate the HTML and XML content of a webpage. It represents the structure of a webpage as a tree of elements.

Q.61 Array vs object defences in JS?

Ans:

**Array vs Object in JavaScript**

Both **arrays** and **objects** are used to store data, but they are designed for different purposes and have key differences.

1. Array

Definition: An ordered collection of items, usually of the same type.

Purpose: Used to store a list of values (e.g., numbers, strings).

Access: Elements are accessed using their index (starting from 0).

Example:

let fruits = ["Apple", "Banana", "Cherry"];

console.log(fruits[0]); // Output: Apple

1. Object

Definition: A key-value pair collection that stores data in named properties.

Purpose: Used to represent real-world entities with properties.

Access: Properties are accessed using their names (keys).

Example:

let car = { brand: "Toyota", model: "Corolla", year: 2021 };

console.log(car.brand); // Output: Toyota

Q.62 Split the string into an array using split() Method?

Ans :

The split() method in JavaScript is used to divide a string into an array based on a specified separator.

string.split(separator);

Example :

let text = "Hello, how are you?";

let words = text.split(" "); // Split by space

console.log(words); // Output: ["Hello,", "how", "are", "you?"]

Q.63 Check if the string contains a word Script using includes() method?

Ans :

The includes() method in JavaScript checks if a string contains a specific word or substring. It returns **true** if the word is found, otherwise **false**.

SYNTEXT :

string.includes(substring);

EXAMPLE :

let text = "I am learning JavaScript!";

let hasWord = text.includes("Script");

console.log(hasWord); // Output: true

Q.64 Change all the string characters to lowercase letters using toLowerCase() Method.

Ans :

The toLowerCase() method in JavaScript converts all the characters of a string to **lowercase**.

SYNTEXT:

string.toLowerCase();

EXAMPLE:

let text = "HELLO, HOW ARE YOU?";

let lowerText = text.toLowerCase();

console.log(lowerText); // Output: "hello, how are you?"

Q.66 copy to one string to another string in JS?

Ans:

In JavaScript, you can copy one string to another variable using simple assignment.

EXAMPLE :

let originalString = "Hello, World!";

let copiedString = originalString;

console.log(copiedString); // Output: "Hello, World!"