**JAVASCRIPT BASIC & DOM**

**Q.1 What is JavaScript. How to use it?**

Javascript is a cross-platform, object-oriented programming language used by developers to make web pages interactive. It allows developers to create dynamically updating contect , use animations, pop-up menus, clickable buttons, control multimedia, etc.

**Q.2 How many type of Variable in JavaScript?**

There are two types of variables in javascript :

1.Local variable

2.Global variable

**Q.3 Define a Data Types in js?**

here are some of the most common data types in java script :

1.**primitive data types:**

* string
* number
* Boolean
* Null
* Symbol
* undefined

**2.non-primitive data types :**

* Array
* Object
* function

**Q.4 Write a mul Function Which will Work Properly When invoked With Following Syntax.**

**Q.5 What the deference between undefined and undeclare in JavaScript?**

The main difference between undefined and undeclared is that an undeclared variable does not exist, while an undefined variable does exist but has no value

**Q.6 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:**

console.log("There is no exercise better for the heart than reaching down and lifting people up.- John ");

console.log("Spread love everywhere you go. Let no one ever come to you without leaving happier. - Mother Teresa");

**Q.7 Check if typeof '10' is exactly equal to 10. If not make it exactly equal?**

let str = '10';

// Check if typeof '10' is exactly equal to 10

if (typeof str === 10 {

console.log("it is equal.");

} else {

// Convert the string to a number

let num = parseInt(str, 10);

if (!isNaN(num)) {

console.log("Converted to number:", num);

} else {

console.log("Unable to convert to a number.");

}

}

**Q.8 Write a JavaScript Program to find the area of a triangle?**

function calculateTriangleArea(base, height) {

return 0.5 \* base \* height;

}

// Example usage

let base = 10;

let height = 5;

let area = calculateTriangleArea(base, height);

**Q.9 Write a JavaScript program to calculate days left until next Christmas?**

function daysUntilChristmas() {

    const currentDate = new Date();

  const nextChristmas = new Date(currentDate.getFullYear(), 11, 25);

  console.log(nextChristmas)

  if (currentDate > nextChristmas) {

    nextChristmas.setFullYear(currentDate.getFullYear() + 1);

  }

  const timeDifference = nextChristmas - currentDate;

  const daysLeft = Math.ceil(timeDifference / (1000 \* 60 \* 60 \* 24));

  return daysLeft;

}

const daysLeftUntilChristmas = daysUntilChristmas();

console.log("Days left until next Christmas:", daysLeftUntilChristmas);

**Q.10 What is Condition Statement?**

A conditional statement in JavaScript is a statement that controls the flow of a program by executing or skipping blocks of code based on a specified condition. It allows you to make decisions in your code and execute different blocks of code depending on the outcome of a condition.

There are several types of conditional statements in JavaScript, including:

1.if statement

2.else statement

3.else if statement

4.switch statement

**Q.11 Find circumference of Rectangle formula : C = 4 \* a ?**

    function calculateRectangleCircumference(length, width) {

  return 2 \* (length + width);

}

// Example usage

let length = 5;

let width = 3;

let circumference = calculateRectangleCircumference(length, width);

console.log("Circumference of the rectangle:", circumference);

**Q.12 WAP to convert years into days and days into years?**

function yearsToDays(years) {

  return years \* 365;

}

function daysToYears(days) {

  return days / 365;

}

let yearsInput = 3;

let daysInput = 1095;

let daysResult = yearsToDays(yearsInput);

let yearsResult = daysToYears(daysInput);

console.log(yearsInput + " years is equal to " + daysResult + " days.");

console.log(daysInput + " days is equal to " + yearsResult + " years.");

**Q.13 Convert temperature Fahrenheit to Celsius? (Conditional logic Question)**

function fahrenheitToCelsius(fahrenheit) {

  if (typeof fahrenheit === 'number' && !isNaN(fahrenheit)) {

    let celsius = (5 / 9) \* (fahrenheit - 32);

    return celsius;

  } else {

    console.log("Invalid input. Please provide a valid number for Fahrenheit.");

    return undefined;

  }

}

let fahrenheitInput = 68;

let celsiusResult = fahrenheitToCelsius(fahrenheitInput);

if (celsiusResult !== undefined) {

  console.log(`${fahrenheitInput} degrees Fahrenheit is equal to ${celsiusResult.toFixed(2)} degrees Celsius.`);

}

**Q.14 Write a JavaScript exercise to get the extension of a filename.?**

Using split() and pop()

1. The filename is split into individual array elements using the split() method. Here, filename. split('. ') gives ["module", "js"] by splitting the string.
2. The last array element, which is the extension, is returned using the pop() method.

**Q.15 What is the result of the expression (5 > 3 && 2 < 4)?**

True

**Q.16 What is the result of the expression (true && 1 && "hello")?**

Hello

**Q.17 What is the result of the expression true && false || false && true?**

false

**Q.18 What is a Loop and Switch Case in JavaScript define that ?**

A for loop is a control structure that allows you to repeat a block of code a certain number of times, while a switch case is a control structure that allows you to execute different blocks of code based on the value of an expression.

**Q.19 What is the use of is Nan function?**

The isNaN() function determines whether a value is NaN , first converting the value to a number if necessary. Because coercion inside the isNaN() function can be surprising, you may prefer to use Number.isNaN()

**Q.20 What is the difference between && and || in JavaScript?**

|| means “or”. It evaluates to true if the expression on either side is truthy. && means “and”. It evaluates to false if the expression on either side is falsy.

**Q.21 What is the use of Void (0)?**

**Q.22 Check Number Is Positive or Negative in JavaScript?**

function checkNumber(num) {

    if (num > 0) {

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

    } else if (num < 0) {

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

    } else {

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

    }

}

var myNumber = 10;

checkNumber(myNumber);

**Q.23 Find the Character Is Vowel or Not ?**

function isVowel(char) {

    char = char.toLowerCase();

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

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

    } else {

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

    }

}

var myChar = 'A';

isVowel(myChar);

**Q.24 Write to check whether a number is negative, positive or zero?**

function checkNumber(num) {

    if (num > 0) {

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

    } else if (num < 0) {

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

    } else {

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

    }

}

var myNumber = 10;

checkNumber(myNumber);

**Q.25 Write to find number is even or odd using ternary operator in JS?**

function checkEvenOdd(number) {

    var result = (number % 2 === 0) ? "Even" : "Odd";

    console.log("The number is " + result + ".");

}

var myNumber = 7;

checkEvenOdd(myNumber);

**Q.26 Write find maximum number among 3 numbers using ternary operator in JS?**

function findMax(a, b, c) {

    var max = (a > b) ? ((a > c) ? a : c) : ((b > c) ? b : c);

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

}

// Example usage:

var num1 = 15;

var num2 = 8;

var num3 = 20;

findMax(num1, num2, num3);

**Q.27 Write to find minimum number among 3 numbers using ternary operator in JS?**

function findMin(a, b, c) {

    var min = (a < b) ? ((a < c) ? a : c) : ((b < c) ? b : c);

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

}

// Example usage:

var num1 = 15;

var num2 = 8;

var num3 = 20;

findMin(num1, num2, num3);