

## Answer the following

1. **State the different features of Javascript? Explain any two in details.**

**Ans-**

### **Features of JavaScript**

JavaScript is a versatile programming language widely used for client-side web development. Key features include:

1. **Lightweight and Interpreted:**

JavaScript is lightweight and executed directly in the browser without requiring prior compilation. This makes it efficient for web applications.

2. **Cross-Platform:**

JavaScript runs on any platform or browser that supports a JavaScript engine, making it highly portable.

3. **Dynamic Typing:**

Variables in JavaScript are not bound to specific types. You can assign values of any type at runtime.

4. **Event-Driven and Asynchronous:**

JavaScript allows event handling (e.g., user actions like clicks) and supports asynchronous operations through callbacks, promises, and async/await.

5. **Object-Oriented Programming (OOP):**

JavaScript supports OOP principles like encapsulation and inheritance via objects and prototypes.

6. **DOM Manipulation:**

JavaScript allows developers to dynamically modify and interact with HTML and CSS via the Document Object Model (DOM).

7. **Functional Programming:**

Functions in JavaScript are first-class citizens, meaning they can be assigned to variables, passed as arguments, or returned from other functions.

### **Explanation of Two Features**

1. **Event-Driven and Asynchronous:**

JavaScript's ability to handle events and perform asynchronous operations is crucial for creating interactive and responsive web

applications.

Example:

```
console.log("Start");  
setTimeout(() => {  
    console.log("This runs asynchronously");  
}, 1000);  
console.log("End");
```

Output:

Start

End

This runs asynchronously

Here, the `setTimeout` function delays execution, allowing the program to continue running without waiting.

## 2. **Dynamic Typing:**

JavaScript variables can hold any type of data without explicitly declaring their type.

Example:

```
let data = 42; // Initially a number  
console.log(typeof data); // Output: number  
data = "Hello"; // Now a string  
console.log(typeof data); // Output: string
```

## 2. **Explain with syntax the different types of comments supported in JS.**

**Ans-**

### **Types of Comments in JavaScript**

JavaScript supports two types of comments: **Single-line comments** and **Multi-line comments**.

#### 1. **Single-Line Comments:**

These begin with `//` and are used for short explanations or to disable a

specific line of code.

Syntax:

```
// This is a single-line comment
```

```
let x = 10; // Declare a variable
```

## 2. **Multi-Line Comments:**

These start with `/*` and end with `*/`. They are used for longer explanations or to disable multiple lines of code.

Syntax:

```
/*
```

```
    This is a multi-line comment.
```

```
    It spans multiple lines.
```

```
*/
```

```
let y = 20;
```