# JavaScript Basics – Assignment (Theory Answers)

## 1. What is JavaScript and where can it be used besides web browsers?

JavaScript is a programming language mainly used for adding interactivity to websites.  
Besides browsers, it is used in:  
- Server-side development (Node.js)  
- Mobile apps (React Native)  
- Desktop apps (Electron)  
- Game development

## 2. Three real-life examples of JavaScript usage on websites

- Form validation before submission  
- Dynamic content updates without reloading (AJAX)  
- Interactive animations and effects

## 3. Difference between var, let, and const

|  |  |  |  |
| --- | --- | --- | --- |
| Feature | var | let | const |
| Scope | Function-scoped | Block-scoped | Block-scoped |
| Re-declaration | Allowed | Not allowed | Not allowed |
| Re-assignment | Allowed | Allowed | Not allowed (but objects/arrays can be modified) |

## 4. Difference between null and undefined

null:  
- Intentional empty value  
- Type: Object  
  
undefined:  
- Variable declared but no value assigned  
- Type: Undefined

## 5. Five JavaScript data types with examples

- String: "Hello"  
- Number: 2525  
- Boolean: true  
- Object: { name: "Abhi" }  
- Array: [1, 2, 3]

## 6. Difference between == and ===

== compares values only.  
=== compares values and types.  
  
Example:  
5 == "5" // true  
5 === "5" // false

## 7. typeof null

typeof null; // "object"  
This is a quirk in JavaScript due to how types were implemented in early versions.

## 8. Block scope vs Function scope

Example:  
function example() {  
 if (true) {  
 let a = 10; // Block-scoped  
 var b = 20; // Function-scoped  
 }  
 console.log(b); // Works  
 console.log(a); // Error  
}