**1. What is hoisting in JavaScript?**

* **Hoisting** is JavaScript's behavior of moving **declarations to the top** of their scope.
* var is hoisted **and initialized as undefined**.
* let and const are hoisted but **not initialized** → causes **ReferenceError** if accessed before declaration.

**What is the Temporal Dead Zone (TDZ)?**

* It's the **time between** the hoisting of a let/const variable and its **actual declaration**.
* Accessing the variable in this zone causes a **ReferenceError**.

|  |
| --- |
| console.log(a); // ❌ ReferenceError |
| let a = 10; |

|  |  |
| --- | --- |
| **Input** | **Output** |
| "", " " | 0 |
| "123", "12.5" | Number |
| "abc", "1a" | NaN |
| true / false | 1 / 0 |
| null | 0 |
| undefined | NaN |
| NaN | NaN |
| [] | 0 |
| [5], ["5"] | 5 |
| [1,2] | NaN |
| {} | NaN |
| new Date() | timestamp |
| Symbol() | ❌ Error |

|  |  |
| --- | --- |
| **Input** | **String() Output** |
| 123, 12.34 | "123", "12.34" |
| true, false | "true", "false" |
| null, undefined | "null", "undefined" |
| NaN, Infinity | "NaN", "Infinity" |
| "", " " | "", " " |
| [], [1,2] | "", "1,2" |
| {} | "[object Object]" |
| Symbol("x") | "Symbol(x)" |