

**Question 1: What are variables in JavaScript? How do you declare a variable using var, let, and const?**

**Variables:** Containers to store data values.

**Declaration:**

- var: Global or function-scoped, can be redeclared.
  - var x = 10;
  - let: Block-scoped, cannot be redeclared.
  - let y = 20;
  - const: Block-scoped, cannot be reassigned.
  - const z = 30;
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**Question 2: Explain the different data types in JavaScript. Provide examples for each.**

**1. String:** Text data.

let name = "Hello";

**2. Number:** Numeric data.

let age = 25;

**3. Boolean:** True or false.

let isActive = true;

**4. Undefined:** Variable declared but not assigned.

let notDefined;

**5. Null:** Represents "nothing".

let emptyValue = null;

**6. Object:** Collection of key-value pairs.

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

**7. Symbol:** Unique and immutable.

let sym = Symbol("id");

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**Question 3: What is the difference between undefined and null in JavaScript?**

- **Undefined:** A variable declared but not assigned a value.
- let a; // undefined
- **Null:** A variable explicitly set to "no value".
- let b = null; // null

**Key Difference:** undefined is automatic; null is intentional.