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

Variables are containers for storing data values. JavaScript provides three ways to declare a variable:

1. var (function-scoped, hoisted, can be redeclared)

var x = 10;

1. let (block-scoped, not hoisted, cannot be redeclared in same scope)

let y = 20;

1. const (block-scoped, cannot be reassigned, must be initialized)

const z = 30;

#### Question 2: Explain the different data types in JavaScript. Provide examples for each.

**JavaScript has primitive and object data types:**

Primitive types:

1. String: let name = "Alice";
2. Number: let age = 25;
3. Boolean: let isStudent = true;
4. Undefined: let x; (default value)
5. Null: let y = null; (intentional absence of value)
6. BigInt: let bigNum = 12345678901234567890n;
7. Symbol: let sym = Symbol('unique');

Object types:

* Object: let person = {name: "Bob", age: 30};
* Array: let colors = ["red", "green", "blue"];
* Function: function greet() { console.log("Hello"); }

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

* undefined means a variable has been declared but not assigned a value
* null is an assignment value representing no value or empty value
* typeof undefined returns "undefined"
* typeof null returns "object" (historical bug)
* undefined == null is true, but undefined === null is false