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

Answer:
Variables are like **containers** that store data.
For example, if you want to store a name, number, or any information, you put it inside a variable.

How to declare variables:

 var

- Old way of declaring variables.

- Can be changed anytime.

- Works everywhere inside a function.

var age = 20;

let

- Modern way.

- Can be changed.

- Works only inside the block {} where it is created.

let name = "Anshu";

const

- Cannot be changed (fixed value).

- Used for permanent values.

    const pi = 3.14;

Example:

- var is like a box you can move anywhere.

- let is a box you can move only inside a room.

- const is a box fixed to the floor — you cannot move it.

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

Answer:
JavaScript has **7 main data types**.

1. String (text)

let city = "Ahmedabad";

2. Number (all numbers)

let score = 95;

3. Boolean (true/false)

let isOnline = true;

4. Undefined (value not given yet)

let price; // undefined

5. Null (empty value)

let selectedItem = null;

6. Object (collection of data)

let student = { name: "Anshu", age: 20 };

7. Array (list of items)

let fruits = ["apple", "mango", "banana"];

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

Undefined:

- A variable declared but no value given.

- JavaScript automatically sets it.

let x;

console.log(x); // undefined

Null:

- A value given by the programmer to show "empty".

let y = null;

Easy Comparison:

undefined	null
Value not assigned	Value assigned as empty
Automatic by JS	Manual by user

Example:

undefined is like an empty glass you forgot to fill.
null is like an empty glass you intentionally kept empty.