**✅ Task 1: Variables and Data Types**

**🎯 Goals:**

* Understand var, let, and const
* Know JavaScript data types
* Learn how JavaScript treats dynamic typing and type coercion

**📘 Concepts to Learn:**

**1. Declaring Variables**

| **Keyword** | **Scope** | **Reassign able** | **Hoisted** | **Notes** |
| --- | --- | --- | --- | --- |
| var | Function | ✅ Yes | ✅ Yes | Legacy, avoid using |
| let | Block | ✅ Yes | ❌ No | Preferred for mutable variables |
| const | Block | ❌ No | ❌ No | Must be initialized |

**2. Data Types**

* **Primitive Types:** String, Number, Boolean, undefined, null, Symbol, BigInt
* **Non-Primitive (Reference) Types:** Object, Array, Function

**3. Type Coercion & Comparison**

* == performs type coercion  
  1 == '1' → true
* === is strict equality  
  1 === '1' → false

**🧪 Practice Exercises**

Write these in a .js file or browser console:

// 1. Declare and reassign variables using var, let, const

let name = "Ali";

name = "Ahmed";

const age = 25;

// age = 30; // ❌ should give error

var city = "Riyadh";

city = "Jeddah";

// 2. Check data types

console.log(typeof name); // "string"

console.log(typeof age); // "number"

console.log(typeof true); // "boolean"

console.log(typeof undefined); // "undefined"

console.log(typeof null); // "object" (quirk in JS)

// 3. Type coercion

console.log("5" + 3); // "53"

console.log("5" - 2); // 3

console.log("5" \* "2"); // 10

console.log("5" \* "two"); // NaN

// 4. Comparisons

console.log(5 == "5"); // true

console.log(5 === "5"); // false

**✅ Your Assignment:**

1. **Try all the above code**
2. **Answer these reflection questions:**
   * What happens if you try to reassign a const?
   * What is the difference between undefined and null?
   * Why is typeof null equal to "object"?
3. **Mini Challenge:**

// Write a function that accepts a name and age,

// and returns a message like "Ali is 25 years old"

function describePerson(name, age) {

// your code here

}