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1. Variables Can Store Numbers Too!

Just like variables can store **text (strings)**, they can also store **numbers**.

Example:

```
var weight = 150;
```

- Here, **weight** is a variable.
- It **stores** the number 150.
- Now, every time you use weight, JavaScript knows it means **150**.

You Can Use Variables in Math

If you add 25 to weight:

```
weight + 25;
```

JavaScript understands it as:

```
150 + 25;  // Result: 175
```

So, **JavaScript can do math with numbers stored in variables!**

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2. Numbers vs. Strings

In JavaScript:

- **Numbers are written without quotes** (e.g., 150).
- **Strings are written inside quotes** (e.g., "150").

Example:

```
var numberValue = 150;    // Number
var stringValue = "150";  // String (Text)
```

Even though both **look the same**, they are different!

☞ **JavaScript can do math on numbers but NOT on strings.**

Example:

```
var originalNum = 23;
var newNum = originalNum + 7;
```

- originalNum is 23.
- JavaScript adds 7 to 23.
- **Result:** newNum becomes 30.

✓ This works because both 23 and 7 are **numbers**.

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3. Mixing Variables and Numbers in Math

JavaScript allows you to mix **variables** and **numbers** in math expressions.

Example:

```
var originalNum = 23;
var numToBeAdded = 7;
var newNum = originalNum + numToBeAdded;  // 23 + 7 = 30
```

☞ **It doesn't matter if you use actual numbers or variables, as long as they are numbers.**

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4. Updating a Variable with a New Value

A variable can **change** based on its own value.

Example:

```
var originalNum = 90;
```

```
originalNum = originalNum + 10;  // Now originalNum is 100
```

- At first, originalNum is 90.
- Then we **add 10** to it (90 + 10).
- Now, originalNum **stores 100 instead**.

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5. What Happens If You Treat a Number as a String?

If you **put a number inside quotes**, JavaScript **treats it as text**, not a number.

Example:

```
var originalNum = "23";  // This is a string, NOT a number!
var newNum = originalNum + 7;
```

☞ JavaScript **does not add** 23 + 7. Instead, it **joins them together** as text:

```
"23" + 7  // Result: "237" (NOT 30)
```

So, **be careful!** If you need to do math, make sure numbers are **not inside quotes**.

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6. Variables Can Change Type

JavaScript **doesn't care** whether a variable stores a number or a string.
You can **change** it anytime.

Example:

```
var myValue = 23;    // myValue is a number
myValue = "Hello";   // Now myValue is a string!
```

JavaScript **allows** this, but **it can cause errors** if you're not careful.

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7. Variable Naming Rules

JavaScript has **rules** for variable names:

✅ Good variable names:

```
var firstName = "John";
var userAge = 25;
var totalAmount = 100;
```

❌ Bad variable names (not allowed):

```
var 1stPresident = "Washington";  // ❌ Cannot start with a number!
var @price = 50;                  // ❌ Cannot use special characters!
```

✅ Allowed:

```
var prezWhoCame1st = "Washington";  // ✅ Allowed because number is not at the start.
```

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8. JavaScript Automatically Converts Numbers to Strings in Alerts

If you display a **number** using alert(), JavaScript **automatically** converts it to a string.

Example 1:

```
alert(144);  // Displays: "144" (even though it's a number)
```

Example 2:

```
var caseQty = 144;
alert(caseQty);  // Displays: "144"
```

☞ Even though caseQty is a **number**, JavaScript treats it as text when displaying it.

📌 Key Takeaways

1️⃣ Variables can store both numbers and strings.
2️⃣ Numbers do not have quotes; strings do.
3️⃣ JavaScript can do math on numbers, but not on strings.
4️⃣ If you add a string and a number, JavaScript joins them instead of adding.
5️⃣ Variable names cannot start with numbers.
6️⃣ JavaScript automatically converts numbers to strings in alerts.
