JavaScript Variables and Data Types

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Definition and Purpose

Variables are labeled containers that store information in a program. They are fundamental for storing and manipulating data, allowing values to be assigned using keywords like let (for changeable values) or const (for constant values).

The purpose of the variables are to store and change data, preform mathematical equations, reuse values.

Key Terms & Elements

- Let is used when the value can change over time
- Const is used when the variable never changes
- Var is more outdated and is used in older code
- Default to const (safer, prevents accidental changes).
- Strings are text data types (with quotes).
- Numbers are numeric data (no quotes).
- Boolean is true or false data.
- Template Literal are modern string format using backticks
- Concatenation joins strings together
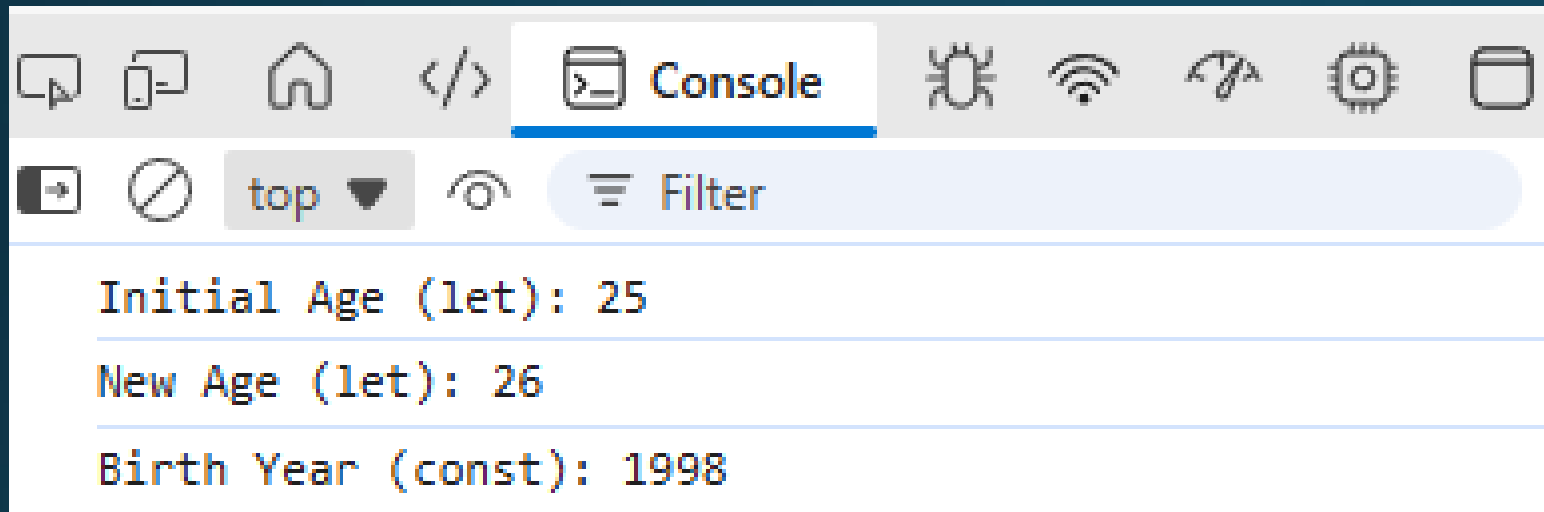
Visual Example / Code Snippet

```
let age = 25;
console.log(age);  // Shows: 25


age = 26;  // Changed the value
console.log(age);  // Shows: 26
```

```
const birthYear = 1998;
console.log(birthYear);  // Shows: 1998
```

Let is used for the age because the variable can change. Const is used for the birth year because the variable cant change

Applied Example

Common Mistakes / Tips

1. Putting quotes on numbers
2. Reassigning a const
3. Mismatched "quotes'

1. Numbers must be naked. Only strings use quotes.
2. Only use let if the variable will change later.
3. Quotes must match in order to work.

JavaScript is strict about how variables are named, leading
to errors that are difficult to spot.

Key Takeaways

1. Only use let if the variable will change and const if the variable wont change.
2. The purpose of the variables are to store and change data, preform mathematical equations, reuse values.
3. The 3 main types of data are Strings, Numbers, and Booleans.