JavaScript Basics

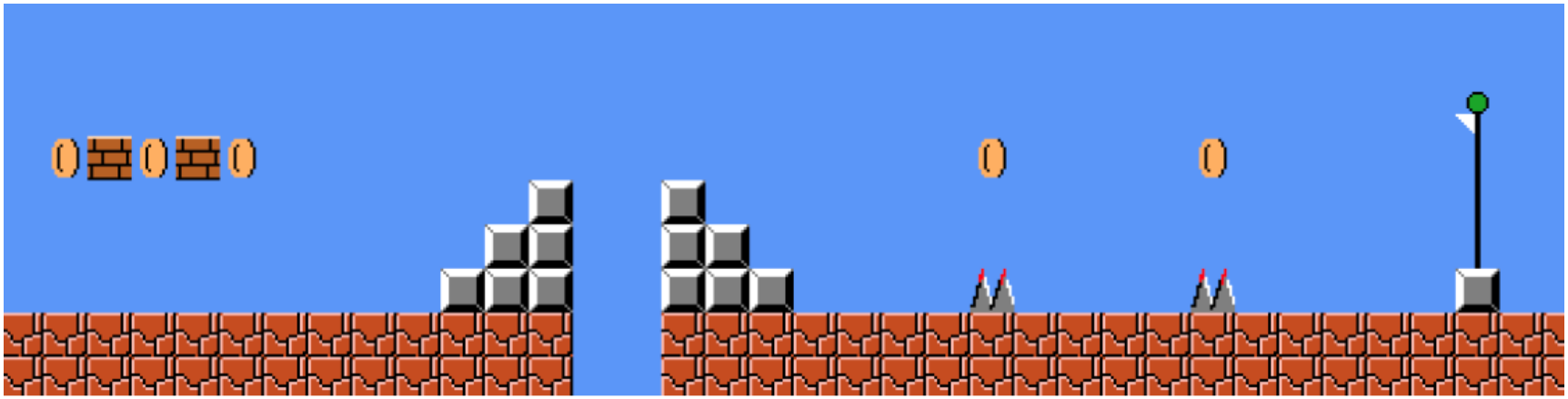
Topics

- JavaScript Facts and Programming Languages
- Basics for JavaScript
- JavaScript Variables
- JavaScript Expressions

- Practice Programming in a Sandbox

What is JavaScript?

- JavaScript is a scripted programming language.
- It is used as an interface to back-end languages.
- It’s also used to create cool things like animations and games.



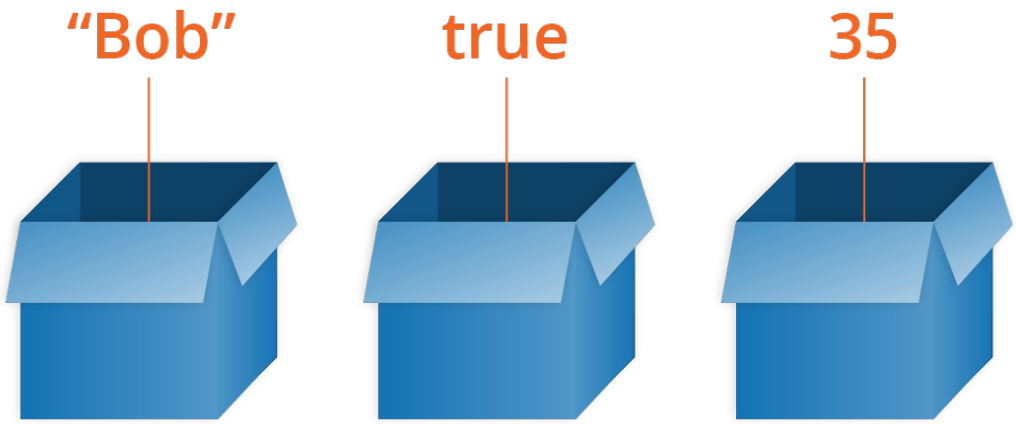
Features of Programming Languages

Programming Language Features

- Data Storage (variables and objects)
- Assignment Statements
- Control Structures
- Data Structures

Variables

- Variables are containers for storing data.
- Variables can store different types of data



How to use Variables in JavaScript Code

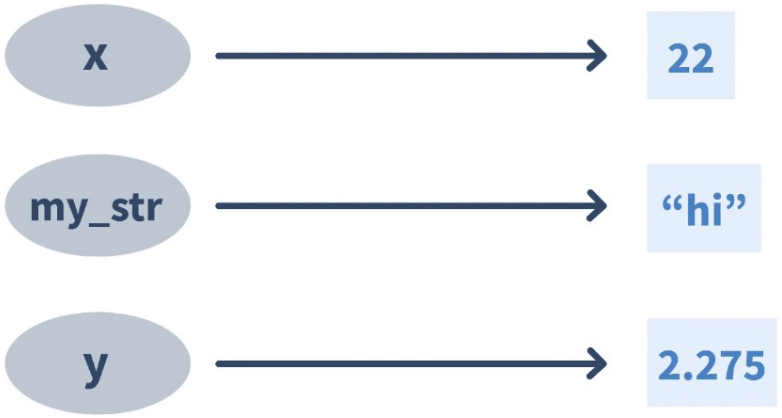
- Variables are created (declared) using the keyword **var**.
- Each variable is identified by a unique name.

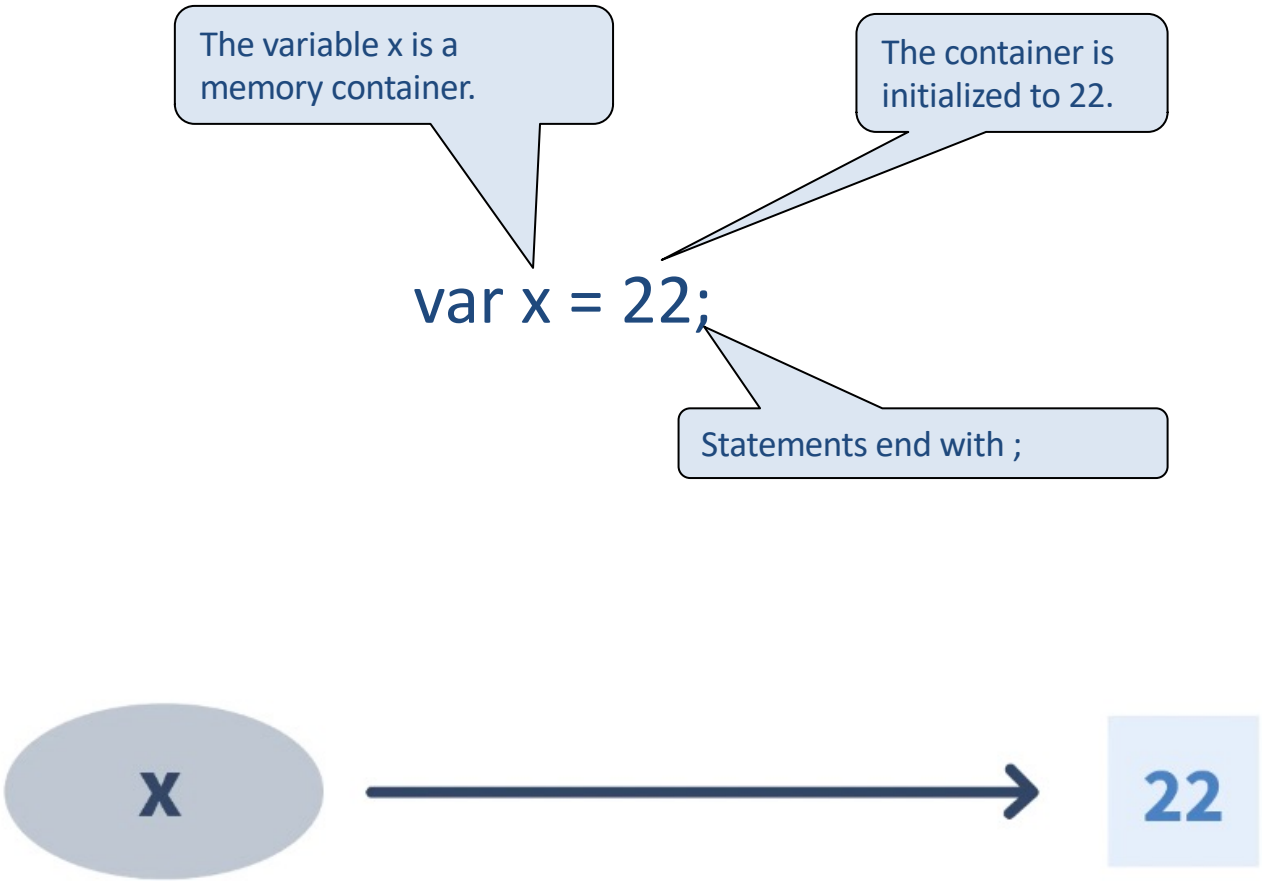
```
var x;
```

Variable Declarations

More Examples

```
var x = 22;
var my_str = “hi”;
var y = 2.275;
```




The variable x is a memory container.
The container is initialized to 22.
var x = 22;
Statements end with ;
x
22

Operators

Calculation Operators

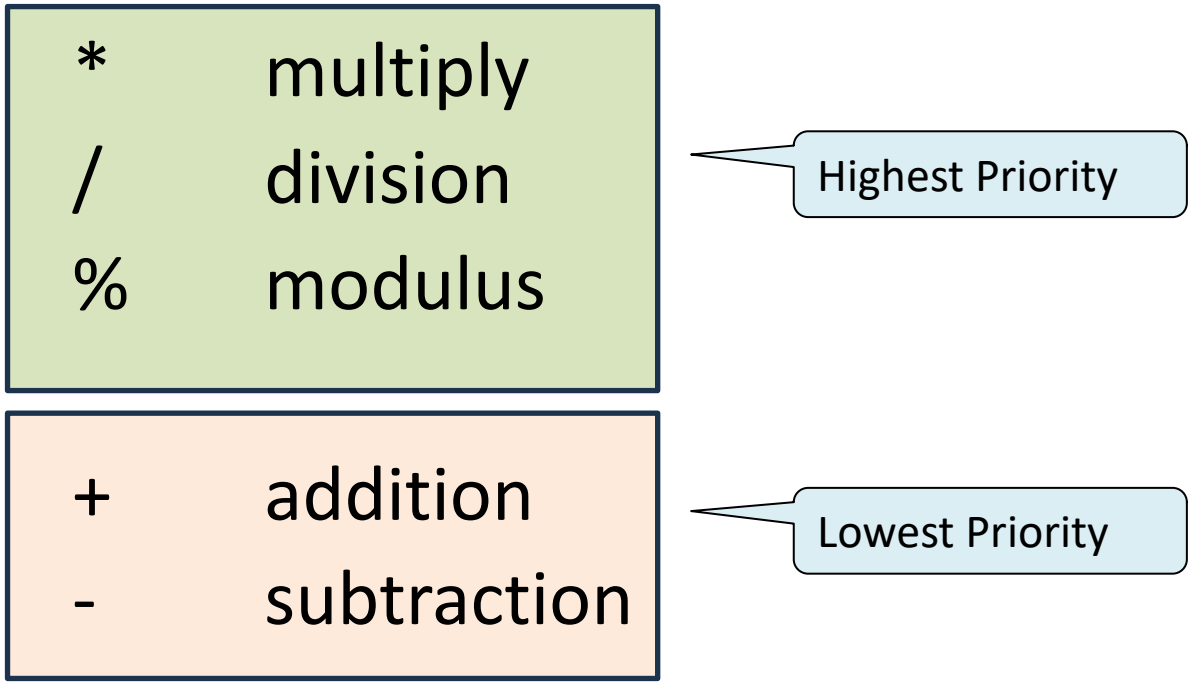
highest to
lowest priority

*
/
%
+
-

Comparison Operators

>
<
>=
<=

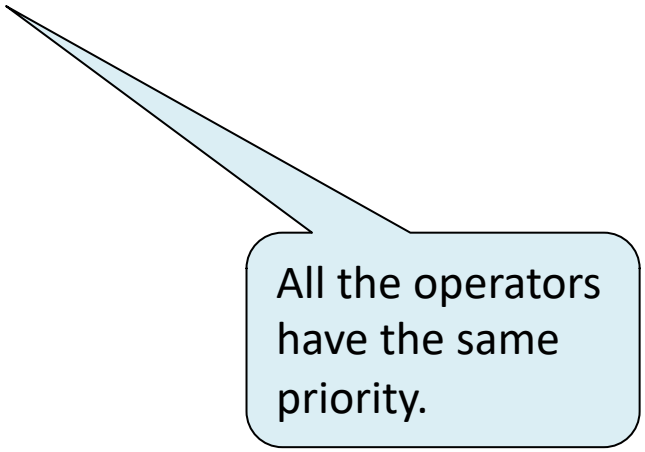
Priority is Important
when evaluating expressions



Expression Examples

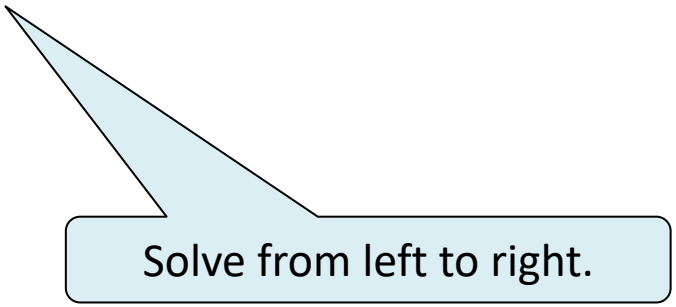
Expression Example

4 * 3 / 2 * 5



Expression Example

4 * 3 / 2 * 5



Expression Example

4 * 3 / 2 * 5

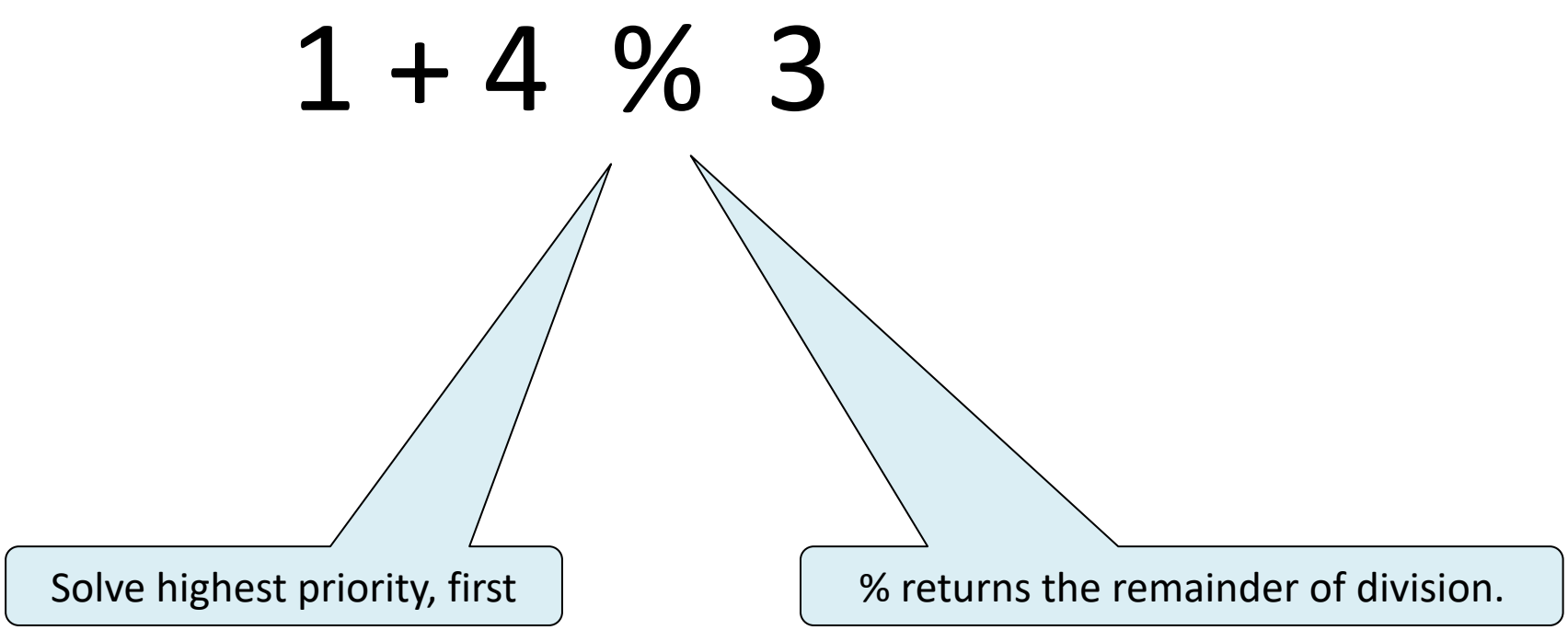
= 4 * 3 / 2 * 5

= 12 / 2 * 5

= 6 * 5

= 30

Expression Example 2



Expression Example 2

1 + 4 % 3

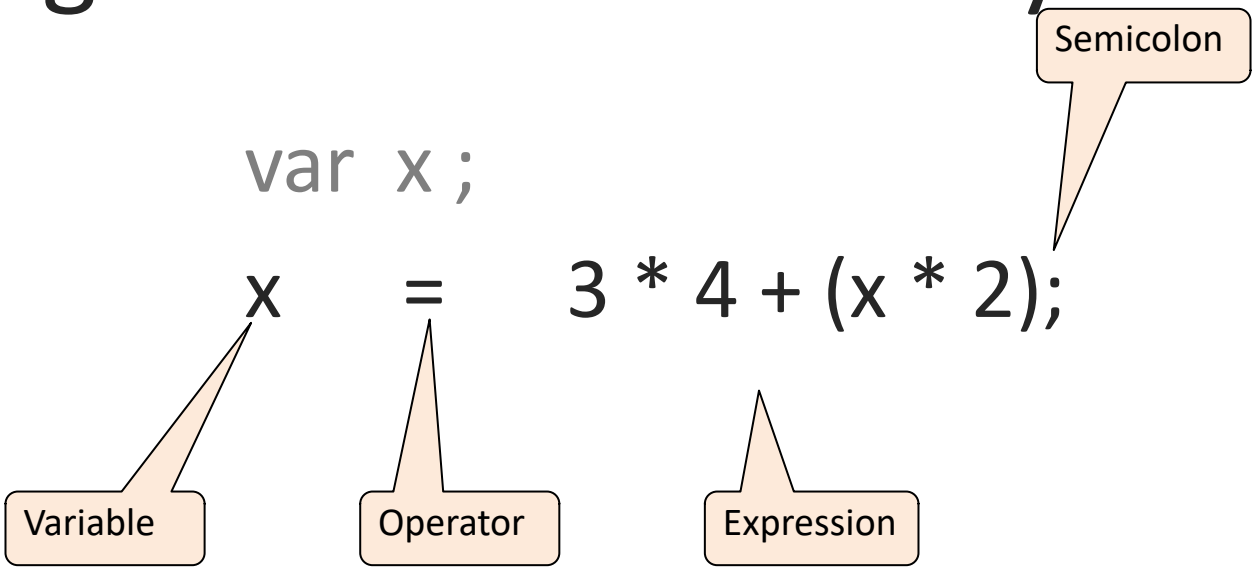
= 1 + 4 % 3

= 1 + 1

= 2

Assignment Statements

Assignment Statement Syntax



JavaScript Sandbox

- https://codehs.com/explore/sandbox/javascript

JavaScript Input/Output

```
// Prompt the user for an integer
var userInput = prompt("Please enter an integer:");
```

Variable

```
// Parse the user input as an integer
var userInteger = parseInt(userInput);
```

Variable

```
// Display the input
console.log("You entered : " + userInteger);
```

JavaScript Program 1

Prompt the user for two integers and compute and display the sum.

Solution to Program 1

```
// TASK 1: Prompt the user for two integers
var a = prompt("Please enter an integer:");
var b = prompt("Please enter an integer:");


// TASK 2: Parse the user input as an integer
var aInt = parseInt(a);
var bInt = parseInt(b);


//TASK 3: Compute the sum of the two integers
var sum = aInt + bInt;


// TASK 4: Display the sum
console.log(”The sum is: " + sum);
```

JavaScript Program 2

Prompt the user for three integers and compute and display the average.

Solution to Program 2

```
// TASK 1: Prompt the user for three integers
var a = prompt("Please enter an integer:");
var b = prompt("Please enter an integer:");
var c = prompt("Please enter an integer:");


// TASK 2: Parse the user input as integer
var aInt = parseInt(a);
var bInt = parseInt(b);
var cInt = parseInt(c);


//TASK 3: Compute the average of the integers
var avg = (aInt + bInt + cInt) / 3;


// TASK 4: Display the average
console.log(" The average is: " + avg);
```