Announcements

• Quiz #5 on Wednesday 12/9
• Do a good job on Project #5
• Final Exam is on 12/14 at 4:00PM
Arithmetic Example

Example: SimpleArithmetic.html
Arithmetic Example

What went wrong?

First Conclusion: We cannot rely on == to compare “floating point” values.

What can we do instead?

Example: SimpleArithmetic2.html
Representing Money

Second Conclusion: Never use floating point values to represent money!

Instead of using dollars:
```javascript
var amount = 10.48;  // $10.48
```

Use pennies:
```javascript
var amount = 1048;
```
2-Dimensional Arrays

Can we create a structure that looks like this?

JavaScript does not have “built-in” 2D arrays

You can create an array of arrays:

```javascript
var a = [[7, 3, 1, 2], [6, 8], [0, 4, 9, 1, 6]];
```

How do we access each element?

a[0][2] = ?
a[2][4] = ?
2-Dimensional Arrays

What is the value of this expression:
```
a.length
```

What expression gives us the length of a particular row?

How can we process all elements in the structure?
```
for (var row = 0; row < a.length; row = row + 1) {
  for (var col = 0; col < a[row].length; col = col + 1) {
    ... a[row][col]...
  }
}
```

Examples: TwoDimensionalArrays1.html
TwoDimensionalArrays2.html
Increment Operators

Three ways to increment a variable:

- \( x = x + 1; \)
- \( x++; \)
- \( ++x; \)

How is \( ++x \) different from \( x++ \)?

They carry different values:

- \( x++ \) \( \rightarrow \) value matches \( x \) before increment
- \( ++x \) \( \rightarrow \) value matches \( x \) after increment

Example: Increment.html
Decrement Operators

Three ways to decrement a variable:

\[ x = x - 1; \]

\[ x--; \]

\[ --x; \]

Same semantics as “++”...