

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:

```
var amount = 10.48;    // $10.48
```

Use pennies:

```
var amount = 1048;
```

2-Dimensional Arrays

Can we create a structure that looks like this?

7	3	1	2	
6	8			
0	4	9	1	6

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

You *can* create an array of arrays:

```
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

7	3	1	2	
6	8			
0	4	9	1	6

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++ → value matches x before increment
```

```
++x → value matches x after increment
```

Example: [Increment.html](#)

Decrement Operators

Three ways to decrement a variable:

```
x = x - 1;
```

```
x--;
```

```
--x;
```

Same semantics as “++”...