

Announcements

- **Please bring laptops to class on Wednesday**
- **Project #2 is due on Thursday**
- **Midterm Exam is next week (Monday 10/12)**
- **Term Paper assignment has been posted**

Recall: Type Conversions

Use Number function when prompting for a numerical value:

```
var size = Number(prompt("Enter size")) ;
```

Example: [Input2.html](#)

More Math...

There are lots of built-in math functions.

Examples:

- `result = Math.abs(-7);` `// result will be 7`
- `result = Math.max(3, 23);` `// result will be 23`
- `result = Math.min(3, 23);` `// result will be 3`
- `result = Math.sqrt(16);` `// result will be 4`
- `result = Math.PI;` `// 3.1415926...`
- `result = Math.random();` `// result will be a`
 `// random value`
 `// between 0 and 1`

Comparisons and Boolean Variables

Comparison Operators

These work as you would expect:

x < y

x > y

x <= y

x >= y

These are “boolean expressions” (either true or false)

Equality Operators

Checking for equality is confusing

There are TWO equality operators:

`x == y` true if x and y evaluate to the same value

`x === y` true if x and y are the same TYPE and also evaluate to the same value

We strongly favor using `===` (You'll see why later...)

Example:

```
x = 5;
```

```
y = "5";
```

```
x == y      // this is true
```

```
x === y     // this is false
```

Example: [Comparisons.html](#)

Equality Operators

Two more operators:

x != y	opposite of	x == y
x !== y	opposite of	x === y

If-Statement

Behavior depends on a “condition”...

Simple Example:

```
x = Number(prompt("Enter first value: "));  
y = Number(prompt("Enter second value: "));  
if ( x < y ) {  
    alert("THE FIRST VALUE WAS SMALLER");  
}  
alert("That was fun.");
```

Example: IfStatements.html

If-Else-Statement

Two possible paths – One or the other will happen...

Simple Example:

```
x = Number(prompt("Enter first value: "));  
y = Number(prompt("Enter second value: "));  
if ( x === y ) {  
    alert("THE VALUES ARE THE SAME");  
} else {  
    alert("THE VALUES ARE DIFFERENT");  
}  
alert("That was fun.");
```

Example: [IfElseStatements.html](#)

Nested Conditionals

Conditional statements can be nested inside each other:

```
if (...) {  
    if (...) {  
    } else {  
    }  
} else {  
    if (...) {  
    }  
}
```

Example: [Nested.html](#)