

# Control Flow & Logical Operators

# Our Goals

- Be able to talk about the execution of a program
- Be able to structure a program using control flow statements
- Identify and use both comparison and logical operators effectively

# Execution of a program

# Conditionals

- Conditional statements execute or skip parts of a program based on the value of an expression
- These are the decision points of your code, or the "branches"
- They rely quite heavily on boolean(ish) values

# The If Statement

- This is the fundamental control statement that allows Javascript to make decisions
- This is roughly how it works

```
if ( expression ) {  
    // statement(s)  
}  
  
if ( true ) {  
    console.log( "This will run" );  
}  
  
if ( false ) {  
    console.log( "This won't" );  
}
```

# The If Statement

```
if ( expression ) {  
    // statement(s)  
} else {  
    // statement(s)  
}  
  
if ( true ) {  
    console.log( "This will run" );  
} else {  
    console.log( "This won't" );  
}  
  
if ( !false ) {  
    console.log( "The opposite is true" );  
}
```

# Comparison Operators

Operator	Meaning	Examples
<code>==</code>	Equality	<code>4 == "4";</code>
<code>===</code>	Strict Equality	<code>42 === 42;</code>
<code>!=</code>	Inequality	<code>1 != "5";</code>
<code>!==</code>	Strict Inequality	<code>8 !== 2;</code>
<code>&gt;</code>	Greater than	<code>6 &gt; 4;</code>
<code>&gt;=</code>	Greater than or equal to	<code>84 &gt;= 84;</code>
<code>&lt;</code>	Less than	<code>1 &lt; 9;</code>
<code>&lt;=</code>	Less than or equal to	<code>11 &lt;= 12;</code>

# Equality vs. Strict Equality

That is, a comparison between `==` and `===`.

Always use threequals!

Remember that one equals sign is assignment



# Logical Operators

Operator	Meaning	Examples
<b>&amp;&amp;</b>	AND	1 === 1 && 2 === 2
<b>  </b>	OR	true    false
<b>!</b>	NOT	!false

# The If Statement

```
if ( 5 > 4 ) {  
    console.log( "Yes, it is!" );  
}  
  
var myNumber = 42;  
if ( myNumber === 42 ) {  
    console.log( "Equal" );  
}  
  
if ( 3 >= 2 && 7 === 7 ) {  
    console.log( "Yep" );  
}  
  
if ( false || true ) {  
    console.log( "Yep" );  
}
```

# The If Statement

```
var age = 42;  
  
if ( age >= 18 ) {  
    console.log( "You can vote" );  
} else {  
    console.log( "You can't" );  
}
```

# More complex If statements

```
if ( someCondition ) {  
  
} else if ( someOtherCondition ) {  
  
} else {  
  
}  
  
if ( 4 === 3 ) {  
    console.log( "First statement" );  
} else if ( 42 !== 42 ) {  
    console.log( "Second statement" );  
} else {  
    console.log( "Third statement" );  
}
```

# More complex If statements

```
var age = 42;

if (age >= 35) {
    console.log('You can vote AND hold any place in government!');
} else if (age >= 25) {
    console.log('You can vote AND run for the Senate!');
} else if (age >= 18) {
    console.log('You can vote!');
} else {
    console.log('You have no voice in government!');
}
```

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Have a crack at **these**  
**exercises**

This is **your homework**