FEWD Week 6 • Class 10:
Logic and Conditional Structures

Quick Review

- How do you load jQuery?
- Which method do you use to replace the contents of one or more elements with text?
- Which group of methods can be used to add and remove classes from element(s)?
- What is the basic syntax for an event handler?

What We'll Cover

- Comparison, equality and negation operators
- Logical AND and OR
- Using conditional structures for control flow
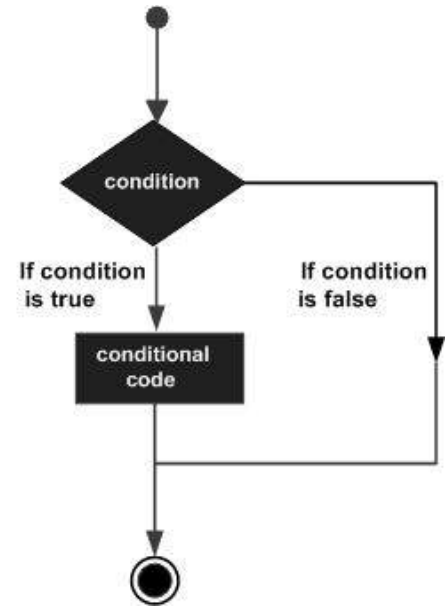
Control Flow and Logic

Objectives:

- Understand what control flow is.
- Use logic and conditional structures to enable control flow

What is Control Flow?

The control flow is the order in which the computer executes statements in a script. Code is run in order from the first line to the last, **unless** it encounters structures that change the control flow, such as *conditionals* and *loops*.

Conditional Structures

Conditional structures evaluate a statement and run the code they contain **if** the statement is **true**.

True and False

Comparison Operators

We need to understand comparison operators to write conditional statements. Some you already know.

```
6 > 5      /* true */
5 < 11     /* true */
11 >= 20   /* false */
11 <= 18   /* true */
```

Equality Is Special

We know that `=` is the assignment operator. To check for equality, we need to use `==` or `===`.

```
5 == 5              /* true */
'Jen' == 'jen'      /* false */
'jen' === 'jen'     /* true */
5 == '5'            /* true */
5 === '5'           /* false */
```

🚩**HEADS UP:** In order for two things to be strictly equal (===), they must be *exactly* the same, including the data type.

Negation (NOT)

The exclamation symbol, known as bang, means *NOT*.

```
6 !== 5              /* true */
'Jen' !== 'Jen'      /* false */
6 != '6'             /* false */
6 !== '6'            /* true */
```

Falsy

Certain values *always* return false. These are called *falsy*.

```
false          /* falsy */
0              /* falsy */
null           /* falsy */
undefined      /* falsy */
Nan            /* falsy */
''             /* (empty string) falsy */
```

Truthy

If the statement does not evaluate to false and is not falsy, it is considered truthy!

```
5            /* truthy */
'jen'        /* truthy */
!0           /* guess what this one is? */
```

Logical OR and AND

Logical AND is written as `&&` in Javascript.

Logical OR is written as `||` in Javascript.

```
(6 > 5) || (6 == 7)    /* true */
(6 > 5) && (6 == 7)    /* false */
```

Short-circuit Evaluation

- false && (*anything*) is always false
- true || (*anything*) is always true

CODE ALONG

True or False?

Writing Conditionals

If Statement Syntax

```
if(condition_is_true) {
  /* Do cool stuff */
}
```

Using Multiple Conditions

```
if ((wifiname === 'GA-Guest') && (password === 'yellowpencil')) {
  //Give 'em access to the wifi
}
```

Day, Evening or Night?

If Then Syntax

```
if(condition_is_true) {
  /* Do cool stuff when true */
} else {
  /* Do other stuff when not true */
}
```

Show Password

If Else If Syntax

```
if(condition is true) {
  /* Do cool stuff when true
     DOESN'T CHECK ELSE IF */
} else if (condition is true) {
  /* Do cool stuff if first if condition was false
     but second if condition is true */
} else {
  /* Stuff to do if both statements are false */
}
```

Switch Statements

```
switch(expression) {
    case n:
        code block
        break;
    case n:
        code block
        break;
    default:
        code block
}
```

```
switch (new Date().getDay()) {
    case 0:
        day = "Sunday";
        break;
    case 1:
        day = "Monday";
        break;
    case 2:
        day = "Tuesday";
        break;
    case 3:
        day = "Wednesday";
        break;
}
```

CODE ALONG

Rewrite with Switch

Midterm Checkup

- Schedule office hours check in with me.
- Make sure your assignments are submitted. I will have comments back to everyone by next week.
- Final project proposals were due, if you didn't get to complete them, make sure you do so immediately.
- Draft HTML is due week 7, so start now!

Go Build Awesome Things!