

Variables and Conditionals

Lesson 9

Objectives

- Define variables and identify best cases to use them.
- Differentiate between strings, integers and floats.
- Apply conditionals to change the programs control flow.

Review jQuery

- dom selectors exercise (in solution folder)

Variables

- We can tell our program to remember values for us to use later on.

Making a variable, step 1

Declare a variable

```
var age;
```

* We must tell the program that there is a variable

Making a variable, step 2

Assign a value

```
age = 21;
```

- We assign a value to the variable we declared

Making a variable

```
var age = 21;
```

- We can declare and assign a variable a value in 1 line of code.

Access a variable

- Type the name of the variable to use it's value

```
var age = 21;
```

```
age + 5;
```


Variables

Reassign the value

```
var name = "Larry";
```

```
name = "Curly";
```

Note: name is now Curly.

Naming

- Variable names start with a lower case letter
- If they contain multiple words, subsequent words start with an upper case letter.

```
var numberOfStudents = 10;
```

What is stored in variables

- String, which is text
- Numbers, like integers, and decimal numbers
- Booleans, true or false

Strings, numbers, booleans

- Stores textual information
- String literal is surrounded by quotes
- "How is the weather today?"

Put 2 strings together

```
var greeting = "Hello ";
```

```
var name = "Larry";
```

```
greeting + name; // returns "Hello Larry";
```


Strings

Double vs single quoted strings:

'They "purchased" it'

"It's a beautiful day"

Strings

Escaping

"They \"purchased\" it"

'It\'s a beautiful day'

Numbers

- `var age = 21; // integer`
- `var pi = 3.14159; //floating point`

Numbers

Operator	Meaning	Example
+	Addition	$8 + 10$
-	Subtraction	$10 - 8$
*	Multiplication	$12 * 2$
/	Division	$10 / 5$
%	Modulus	$10 \% 6$

Numbers

```
var age = 21;
```

```
var retirementAge = 67;
```

```
retirementAge - age; //returns 46
```


Signed Numbers

integer : +6

float point: -8.2

Can perform arithmetic on number data types

Number to strings

```
var number = 4;
```

```
number.toString();    // => "4"
```

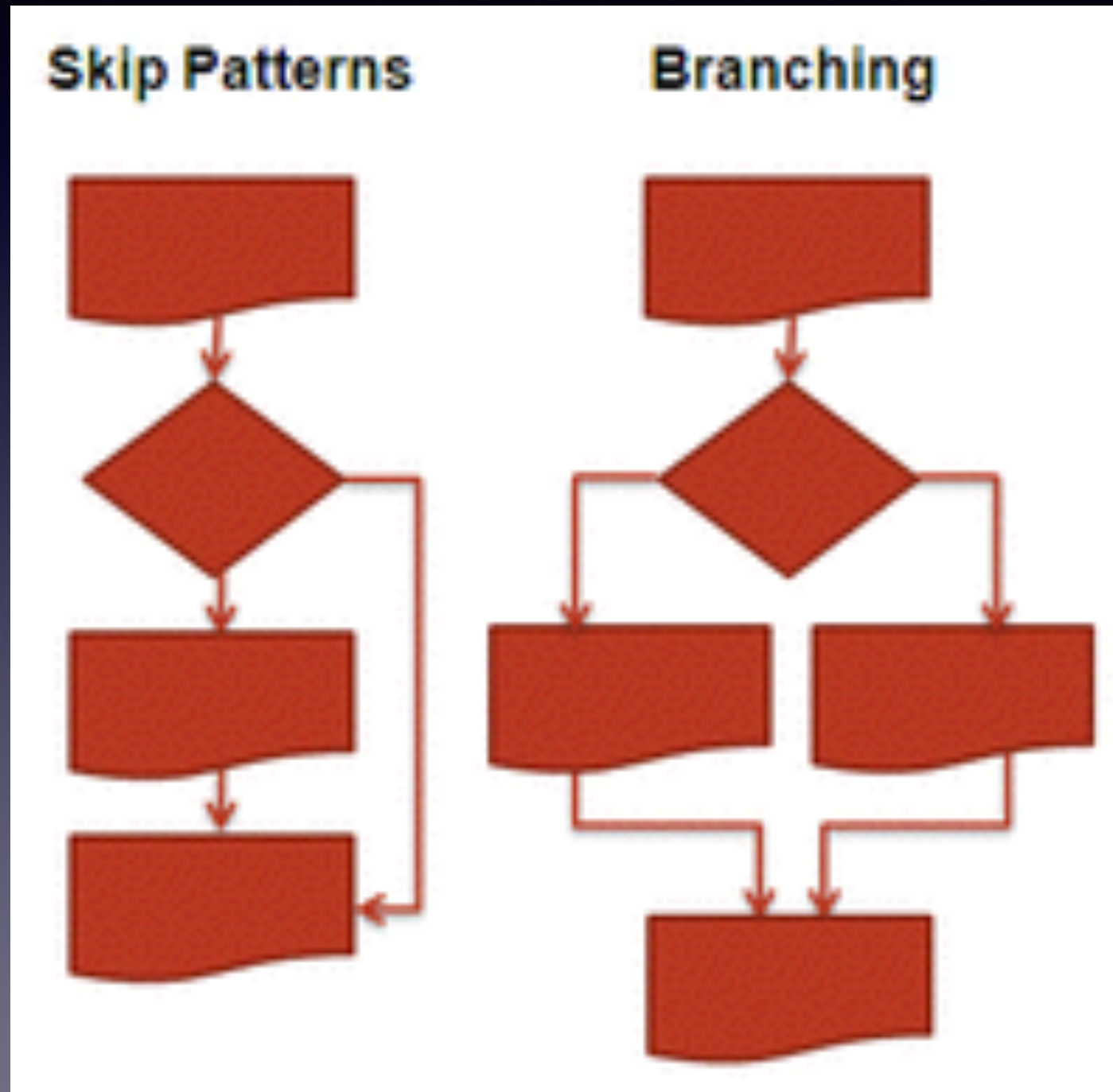
OR

```
number + ""           => "4"
```

Scorekeeper

- Exercise

Conditionals Intro



Making Decisions

Check to see if something is true or false

If you are greater than 18

you are an adult

```
if (age > 18){  
    console.log("You are an adult");  
}
```


Comparisons

Are two things equal?

```
10 === 10 //true
```

```
10 === 5 //false
```

```
"hi" === "hi" //true
```

Logical Operators

x = 3

Logical Operators			
Operator	Description	Comparing	Returns
==	equal to	x == 8	FALSE
===	exactly equal to(value and type)	x === "3"	FALSE
		x === 3	TRUE
!=	is not equal	x != 8	TRUE
!==	is not equal(neither value nor type)	x !== "3"	TRUE
		x !== 3	FALSE
>	greater than	x > 8	FALSE
<	less than	x < 8	TRUE
>=	greater than or equal to	x >= 8	FALSE
<=	less than or equal to	x <= 8	TRUE

Conditional Syntax

```
if(condition is true) {  
    //Do cool stuff  
}
```

Conditional Syntax

```
if(condition is true) {
```

```
    //Do cool stuff
```

```
} else {
```

```
    //Do other cool stuff
```

```
}
```


More syntax

```
var topic = "JS";  
if (topic === "JS") {  
    console.log("You're learning JavaScript");  
} else if(topic === "JavaScript") {  
    console.log("You're still learning JavaScript");  
} else {  
    console.log("You're learning something else");  
}
```


Multiple Conditions

```
if (name === "GA" && password === "YellowPencil"){  
    //Allow access to internet  
}
```

Multiple conditions - &&

AND - &&	TRUE	FALSE
TRUE	true	false
FALSE	false	false

OR

```
if (day == "Tuesday" || day == "Thursday"){  
    //We have class today  
}
```

OR table

OR - 	TRUE	FALSE
TRUE	true	true
FALSE	true	false

Compare That

- Exercise

Blackout

- Exercise

Weather Application - part 1

- As a class, write feature requirements / user stories necessary to create a fully functional application that takes celsius temperature, converts it to Fahrenheit and changes the background to match said temperature.
- In groups of four, write pseudo code for the application.
- In pairs write the code to convert Celsius into Fahrenheit, and display the result in the browser.