Introduction to Programming

Class 8, 19 September 2016

Jack Phillips <jack_phillips@asl.org>

Goals

Goal 1: You will understand how computers make decisions.

Goal 2: You will know how to implement an if-statement in JavaScript.

Vocabulary

Selection
If-statement
Code block

Code

```
if () {}
string.toLowerCase()
+=
==
```

New Partners

- Naz & Alaa
- Izzy & Kendall
- Matthew & Lorenzo
- Thomas C & Michael
- Nic & Lindsay
- Jack & Dom
- Chloe & Vikram
- Jake & Lauren & Reece
- Thomas B & Max

- **Share name and grade**

- **What is the longest uninterrupted time that you've spent in a car?**

Task: **Welcome to School**

Create a flowchart

What is your name?

Jack

Cancel   OK

Are you new to ASL (y/n)?

y

Cancel   OK

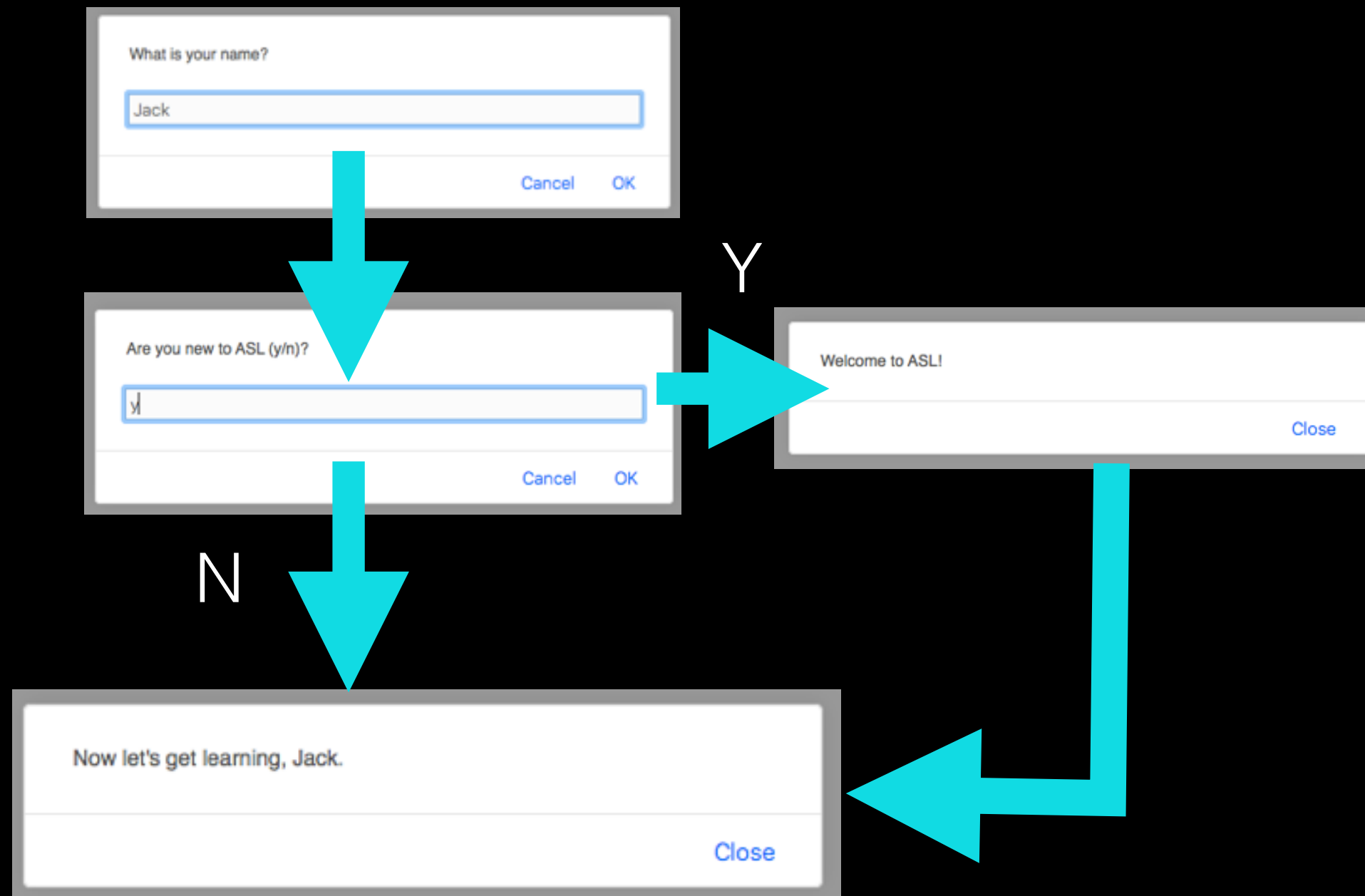Are you new to ASL (y/n)?

n

Cancel   OK
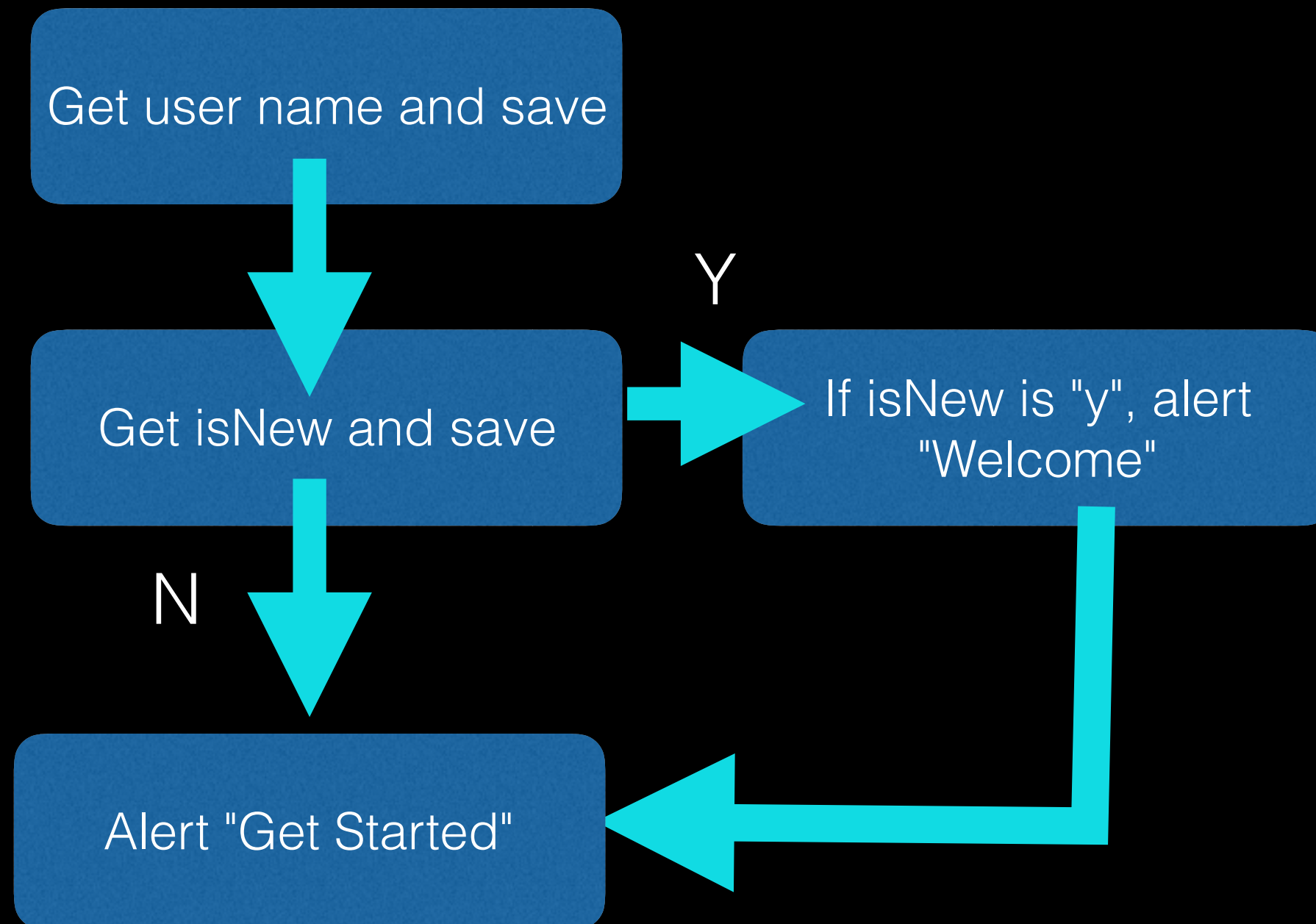
Welcome to ASL!

Close

Now let's get learning, Jack.

Close

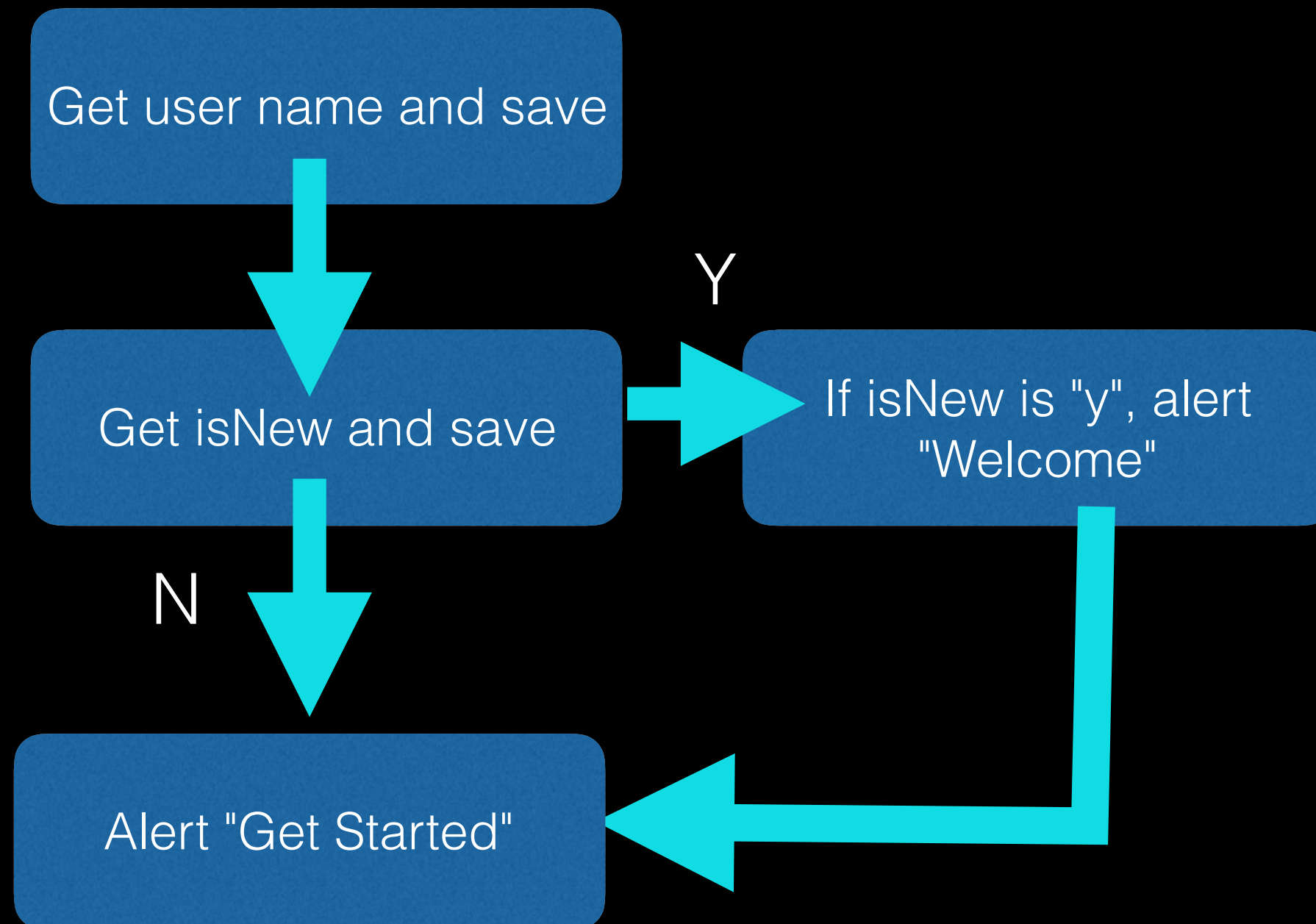# Task: **Welcome to School**

Task: **Welcome to School**

Get user name and save

Get isNew and save

Y

If isNew is "y", alert "Welcome"

N

Alert "Get Started"

Task: **Welcome to School**

Get user name and save

```
var name = prompt("What is your name");
```

Task: **Welcome to School**

Get user name and save

Get isNew and save

Y
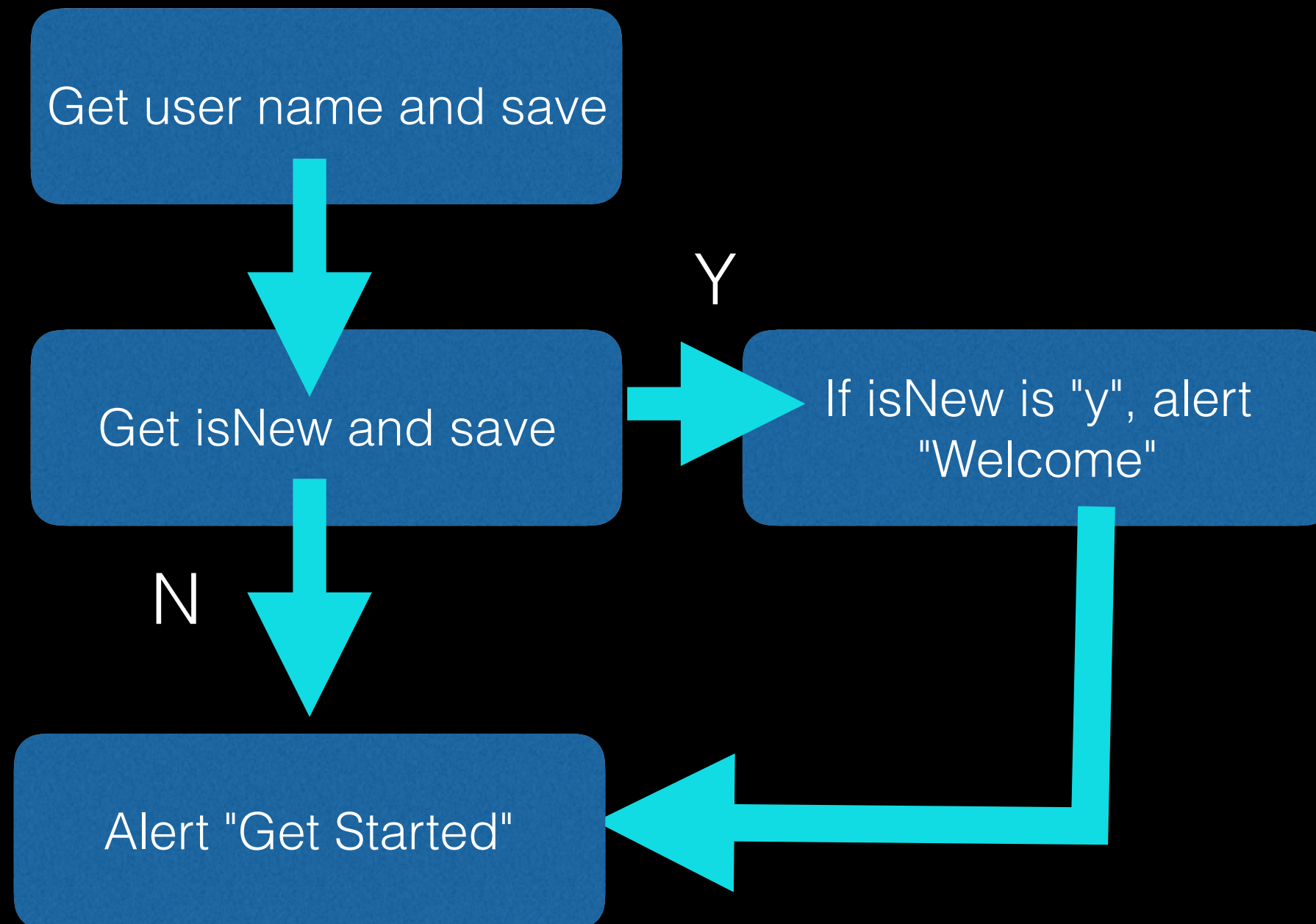
If isNew is "y", alert "Welcome"

N

Alert "Get Started"

Task: **Welcome to School**

Get isNew and save

```
var isNew = prompt("Are you new to ASL?");
```

Task: **Welcome to School**
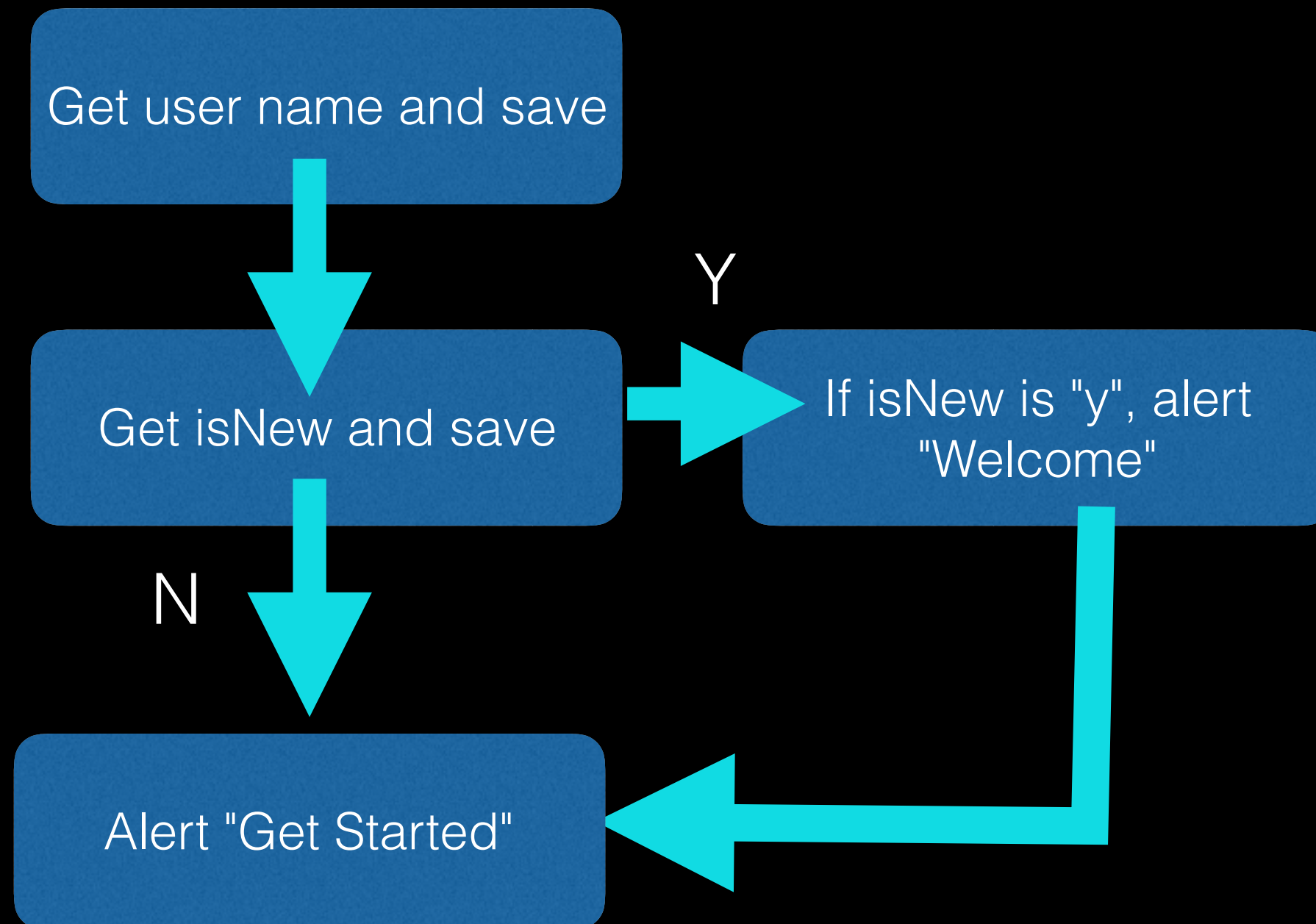
Task: **Welcome to School**

Alert "Get Started"

```
var message = "Let's get learning, " + name + ".";
alert(message);
```

Task: **Welcome to School**

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

`if isNew is "y" then alert "Welcome"`

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

```
if isNew is "y" then alert "Welcome"
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

```
if isNew is "y" then

        alert("Welcome to ASL!");
```

Task: **Welcome to School**

If isNew is "y", alert
"Welcome"

```
if isNew is "y" then

        alert("Welcome to ASL!");
```

Task: **Welcome to School**

> If isNew is "y", alert
> "Welcome"

```
isNew is "y" then

if ( )

    alert("Welcome to ASL!");
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

```
isNew is "y" then

if ( )

    alert("Welcome to ASL!");
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

```
                    then

if ( isNew == "y" )
        alert("Welcome to ASL!");
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

then

```
if ( isNew == "y" )
    alert("Welcome to ASL!");
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

```
if ( isNew == "y" ){
        alert("Welcome to ASL!");
}
```

Task: **Welcome to School**

If isNew is "y", alert
"Welcome"

```
if ( isNew == "y" ){

        alert("Welcome to ASL!");

}
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

Conditional
a.k.a. if-statement

```
if ( isNew == "y" ){

    alert("Welcome to ASL!");

}
```

Task: **Welcome to School**

If isNew is "y", alert
"Welcome"

The condition

Equality operator

NOTE: No semicolon

```
if (isNew == "y"){
    alert("Welcome to ASL!");
}
```

Task: **Welcome to School**

If isNew is "y", alert "Welcome"

NOTE: Indented four spaces!

```
if ( isNew == "y" ){
    alert("Welcome to ASL!");
}
```

NOTE: No semicolon

A code block.
Everything between { }

A code block: Everything between { }

- A code block is a section of code that is grouped together.
- A code block is denoted by curly braces {}.
- The first curly brace is in-line.
- All lines in a code block are indented by 2, 4, or 8 spaces.

A code block: Everything between { }

```
if(name == "Jack") {
    code block
}


for(var i=0; i<10; i++) {
    code block
}


function growLarge() {
    code block
}
```

Task: **Welcome to School**

```
var name = prompt("What is your name");

var isNew = prompt("Are you new to ASL?");


if ( isNew == "y") {

    alert("Welcome to ASL!");

}
var message = "Let's get learning, " + name + ".";
alert(message);
```

Task: **Welcome to School Again**

Create a flowchart

What is your name?

Jack

Cancel   OK

Are you new to ASL (y/n)?

y

Cancel   OK

Are you new to ASL (y/n)?

n

Cancel   OK

Welcome to ASL! Now let's get learning, Jack.

Close

Now let's get learning, Jack.

Close

Task: **Welcome to School**

What is your name?

Jack

Cancel   OK

Are you new to ASL (y/n)?

y

Cancel   OK

Y

Welcome to ASL! Now let's get learning, Jack.

Close
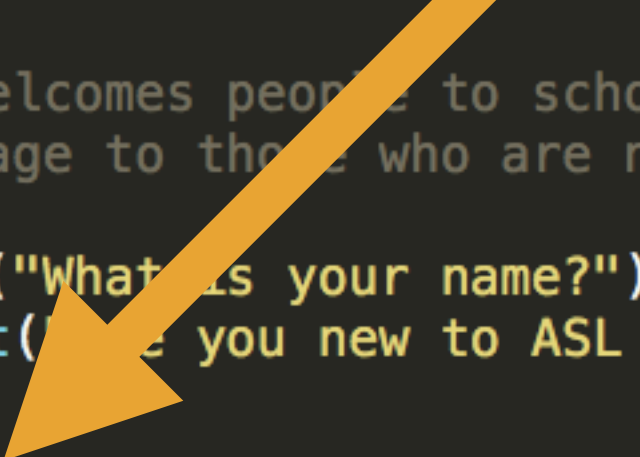
N

Now let's get learning, Jack.
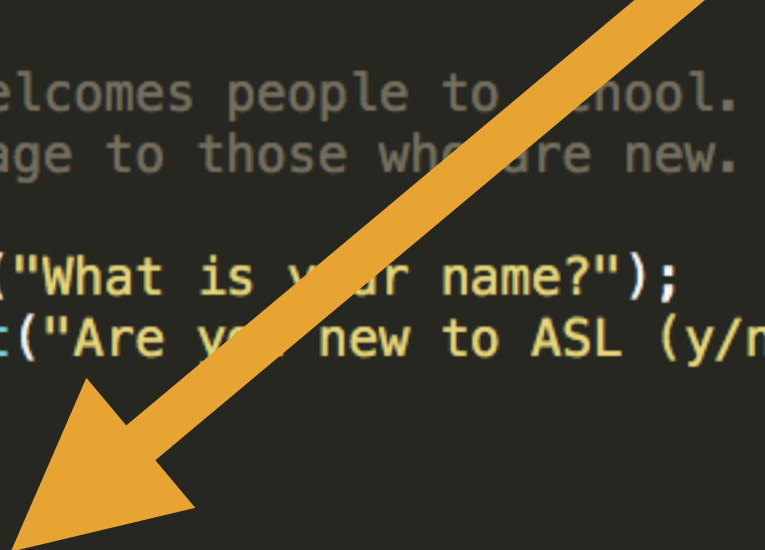
Close

Task: **Welcome to School**

Initialize empty string.

```
1  <script>
2  // This program welcomes people to school. It gives
3  // a special message to those who are new.
4
5  var name = prompt("What is your name?");
6  var isNew = prompt("Are you new to ASL (y/n)?");
7
8  var message = "";
9
10 if (isNew.toLowerCase() == "y") {
11     message = "Welcome to ASL!";
12 }
13
14 message += " Now let's get learning, " + name + ".";
15
16 alert(message);
17 </script>
```

Task: **Welcome to School**

Make sure isNew is lower case.

```
1  <script>
2  // This program welcomes people to school. It gives
3  // a special message to those who are new.
4
5  var name = prompt("What is your name?");
6  var isNew = prompt("Are you new to ASL (y/n)?");
7
8  var message = "";
9
10 if (isNew.toLowerCase() == "y") {
11     message = "Welcome to ASL!";
12 }
13
14 message += " Now let's get learning, " + name + ".";
15
16 alert(message);
17 </script>
```

Task: **Welcome to School**

```
1  <script>
2  // This program welcomes people to school. It gives
3  // a special message to those who are new.
4
5  var name = prompt("What is your name?");
6  var isNew = prompt("Are you new to ASL (y/n)?");
7
8  var message = "";
9
10 if (isNew.toLowerCase() == "y") {
11     message = "Welcome to ASL!";
12 }
13
14 message += " Now let's get learning, " + name + ".";
15
16 alert(messa
17 </script>
```

Same as

`message = message + " Now let's get learning ….`

Task: **Welcome to School**

```
1   <script>
2   // This program welcomes people to school. It gives
3   // a special message to those who are new.
4
5   var name = prompt("What is your name?");
6   var isNew = prompt("Are you new to ASL (y/n)?");
7
8   var message = "";
9
10  if (isNew.toLowerCase() == "y") {
11      message = "Welcome to ASL!";
12  }
13
14  message += " Now let's get learning, " + name + ".";
15
16  alert(messa
17  </script>
```

Same as

message = message + " Now let's get learning ….

Goals

Goal 1: You will understand how computers make decisions.

Goal 2: You will know how to implement an if-statement in JavaScript.

Vocabulary

Conditional
If-statement
Code block
Initialize

Code

```
if () {}
string.toLowerCase()
+=
==
```