Introduction to Programming
Class 15, 23 February 2017

Goals

Goal 1: You will know how to implement a simple for-loop.

Vocabulary

Iteration
For Loop

Code

```
for () {}
```

WARM UP!

1. Each person take 1 question.
2. 2 minutes of silence working on the question
3. As group, answer each question

5

Loops (aka Iteration)

Three key parts of a programming language (so far):
1) Storage (variables)
2) Selection (conditionals)
3) Iteration (loops)

Ingredients of an algorithm

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 { }

Structure of a For Loop

Repeat "Welcome" 5 times

Structure of a For Loop

Repeat "Welcome" 5 times

NOTE: semicolons

NOTE: Indented four spaces!

```
for (var i=0; i<5; i=i+1){
    alert("Welcome to ASL!");
}
```

NOTE: No semicolon

A code block.
Everything between { }

Structure of a For Loop

Repeat "Welcome" 5 times

```
for (var i=0; i<5; i=i+1){
       alert("Welcome to ASL!");
}
```

Initialize
iterator

Termination
Condition

Increment

Structure of a For Loop

Repeat "Welcome" 5 times

```
for (var i=0; i<5; i=i+1){

    alert("Welcome to ASL!");

}
```

```
var i = 0;

alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
```

Structure of a For Loop

Repeat "Welcome" 5 times

```
for (var i=0; i<5; i++){
    alert("Welcome to ASL!");
}
```
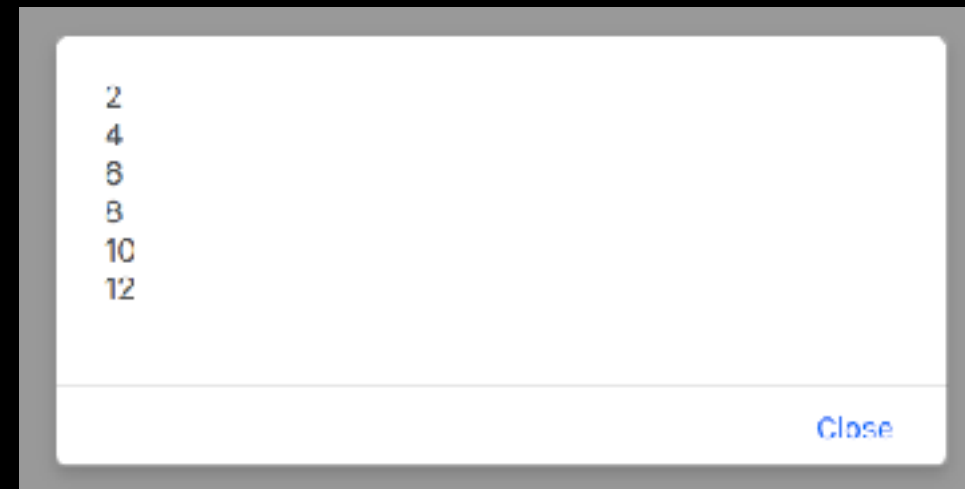
SAME

```
for (var i=0; i<5; i=i+1){
    alert("Welcome to ASL!");
}
```

```
var i = 0;

alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;
alert("Welcome to ASL!");

i = i + 1;

alert("Welcome to ASL!");

i = i + 1;
```
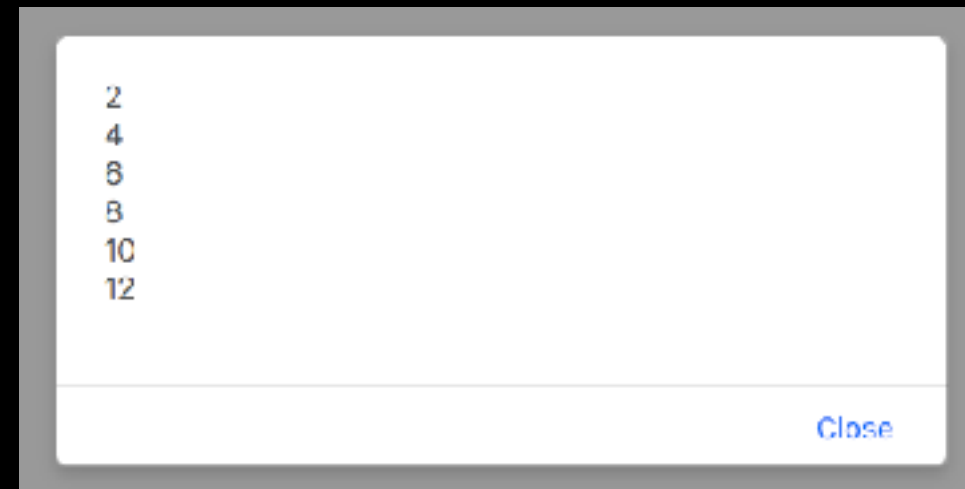
Practice!

- **Write a program that displays:**

```
2
4
6
8
10
12
```

Close

Practice!

- **Write a program that displays:**

```
2
4
6
8
10
12
```

```
var message = "";

for (var i=2; i<14; i=i+2) {
    message = message + i + "\n";
}

alert(message);
```
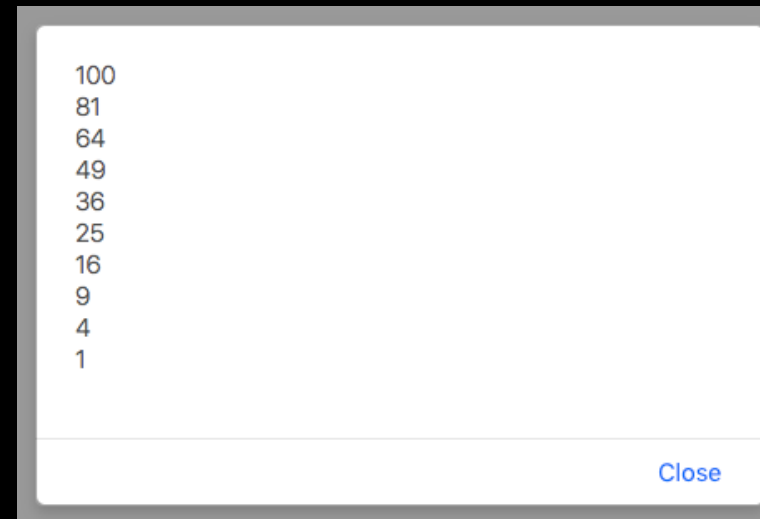
Practice!

- **Write a program that displays:**

```
100
81
64
49
36
25
16
9
4
1
```

Close

Practice!

- **Write a program that displays:**

```
100
81
64
49
36
25
16
9
4
1

                        Close
```

```javascript
var message = "";

for (var i=10; i>0; i=i-1) {
    message = message + i*i + "\n";
}

alert(message);
```

Goals

Goal 1: You will know how to implement a simple for-loop.

Vocabulary

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Wrap Up

1. Complete the questionnaire sent via email
2. Homework - Task H28 Adding Numbers

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