CIS 110 Recitation
10 July 2017

Loops and Arrays

Nested Loops

```
for (int i = 0; i < 10; i++) {
    for (int j = 0; j < i; j++) {
        System.out.print(":)");
    }
    System.out.println();
}
```

How many smilies are printed?

- Can have a loop within a loop
- Outer loop contains inner loop in it's body
  - Inner loop runs every iteration of the outer loop
- Loop conditions are key!
- Exercise: use a nested loop to print out the following:

```
*
**
***
****
*****
```

Nested Loop Examples

```java
for (int i = 0; i < 5; i++) {
    for (int j = 0; j < 10; j++) {
        System.out.println("row: " + i + ", col: " + j);
    }
}

for (int i = 0; i < 5; i++) {
    for (int j = 0; j < 5; j++) {
        for (int k = 0; k < 5; k++) {
            ...
        }
    }
}
```

Array Exercises

Command line arguments

- Using the command line results in a String array (String[]) called args

- Print out the length of args and then using a for loop to iterate through args, print each value stored in the array

Find the minimum

- Given an int array (int[] numbers) of unknown size, iterate through the array to find the minimum. Print the minimum after finding it.

- How would you modify this to find the maximum instead?

Challenge question: find the index

- Given a String array (int[] words) and a String word, find the index of this array where words[index] is equal to String word.

- Print the found index

- How could you modify this to handle the case that int[] words does not contain String word, or that it contains String word at multiple indices?

"That's all Folks!"