CSE 121 Lesson 17:
Array Patterns

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Today’s playlist:
CSE 121 24wi lecture beats :D
Announcements & Reminders

• P3 due **Thursday March 7**\textsuperscript{th} at 11:59pm
• Fun news: for R7, any assignment can be resubmitted
• Gigi (& friends) Visit on Monday, March 11th 1:00pm-3:00pm
• Final Exam: **Tuesday, March 12th 12:30pm-2:20pm**
  • [Left-Handed Seating Requests Form](#), closes end-of-day Monday, March 4\textsuperscript{th}
  • TA-led Final Review Session on Monday, March 11\textsuperscript{th}, 4:30-6:50 at SMI 120
  • Next week: focus on hand-writing!
public static int evenLength(String[] list) {
    int countEven = 0;
    for (int i = 0; i < list.length; i++) {
        if (/* condition here */) {
            countEven++;
        }
    }
    return countEven;
}
(PCM) Modifying Elements of an Array

```
public static void clamp(int min, int max, int[] list) {
    for (int i = 0; i < list.length; i++) {
        if (list[i] > max) {
            list[i] = max;
        } else if (list[i] < min) {
            list[i] = min;
        }
    }
}
```
public static int indexOfIgnoreCase(String phrase, String[] list) {
    for (int i = 0; i < list.length; i++) {
        if ( ) {
            return ;
        }
    }
    return ;
}
public static void rotateRight(double[] list) {
    double lastElement = list[list.length - 1];
    for (int i = list.length - 1; i > 0; i--) {
        list[i] = list[i - 1];
    }
}
Looking at Multiple Elements in an Array

public static boolean isPalindrome(int[] list) {
    for (int i = 0; i < list.length / 2; i++) {
        if (list[i] != list[list.length - 1 - i]) {
            return false;
        }
    }
    return true;
}
(PCM) Array of Counters or "Tallying"

```java
public static int[] numCount(Scanner input) {
    int[] counts = new int[];
    while (input.hasNextInt()) {
        int num = input.nextInt();
    }

    return counts;
}
```

8 3 0 1 2 2 0 7 2
Common Ideas in Array Patterns

- Loop bounds
- Direction of traversal
- Indexing into an array
Your Questions on Arrays! (1/3)

“When do we use quick initialization and when do we not or does it not matter?”

“What is a simple(r) way of deciding what pattern to utilize to perform certain functions?”

“how would I switch every third element in an array?”
“How do you interact with an array that has a lot of elements in it quickly?”

“Why do arrays have a completely different syntax (requiring java.util.*) in comparison to other data types? Is it just because they're more simple?”
“In a real computer science job, how likely is it you would have something like an array of arrays where each array is an array of arrays?”