CSE 121 Lesson 15:
Array Patterns and Exam Review

Simon Wu
Summer 2024

TAs: Trey Hannah Mia Vivian Jolie Colton Ziao

sli.do #cse121
Announcements, Reminders

• Quiz 2 Feedback will be released by Monday at the **latest**
  • Tip: Make sure you are reviewing your quizzes when preparing for the final!
• R6 and R7 released!
  • *Extra Resubmission Cycle – any assignment can be resubmitted for both!*
• Programming Assignment 3 due next Tuesday
• Final Exam: **Friday, 8/16 from 12:00-1:00 in PCAR 290**
  • See Ed post for more information
  • No more make-ups for the final exam
• Final Reflection feedback deadline TONIGHT!
(2D)ays Above Average: `readData()`

How many days' data would you like to input? 3

Next day's data:
- Temperature in Seattle? 44
- Temperature in Tacoma? 40
- Temperature in Bothell? 43

Next day's data:
- Temperature in Seattle? 42
- Temperature in Tacoma? 40
- Temperature in Bothell? 44

Next day's data:
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- Temperature in Tacoma? 41
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(2D)ays Above Average: readData()

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(2D)ays Above Average: `computeAverages()`

How many days' data would you like to input? 3

The average values for each location were:

- Seattle: 42.667
- Tacoma: 40.333
- Bothell: 43.333

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Average of Seattle temperatures:

\[
\frac{44 + 42 + 42}{3}
\]
Questions?
(PCM) Counting Elements that Meet a Condition

```
public static int evenLength(String[] list) {
    int countEven = 0;
    for (int i = 0; i < list.length; i++) {
        if (/* condition */) {
            countEven++;
        }
    }
    return countEven;
}
```

<table>
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<th>&quot;three&quot;</th>
<th>&quot;six&quot;</th>
<th>&quot;seven&quot;</th>
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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;
        }
    }
}
(PCM) Searching for an Element

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```java
public static int indexOfIgnoreCase(String phrase, String[] list) {
    for (int i = 0; i < list.length; i++) {
        if (/* condition */) {
            return i;  // Return the index
        }
    }
    return -1;  // If phrase is not found
}
```
(PCM) Shifting Elements

| 9.6 | -88.0 | 4.815 | 0.009 | 7.0184 | 42.9 |

```java
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;
}
```

0 1 9 1 0
(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