CSE 121 – Lesson 14

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Summer 2023

Music: 🌸k-pop girlies playlist🌸

No sli.do today <3
Announcements, Reminders

• Creative Project 3 Practice Final released, due next Tuesday
• Resub 5 due tomorrow, Resub 6 (final resub) out tomorrow
• Course Evaluations open Aug 12th – Aug 18th
  • [https://uw.iasystem.org/survey/277506](https://uw.iasystem.org/survey/277506)
• **Reminder**: Final exam Wednesday Aug 16 4:30 – 6:30 PM in PAA A102
  • See Final Exam page for the procedures and seating Assignments
  • Friday Lecture is Final Review Session
Looking at Multiple Elements in an Array

| 0 | 1 | 9 | 1 | 0 |

```java
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) Looking at Multiple Elements in an Array

| 0 | 1 | 9 | 1 | 0 |

```java
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;
}
```
Array of Counters or "Tallying"

```java
public static int[] numCount(Scanner input) {
    int[] counts = new int[10];
    while (input.hasNextInt()) {
        int num = input.nextInt();
    }
    return counts;
}
```
public static int[] numCount(Scanner input) {
    int[] counts = new int[10];
    while (input.hasNextInt()) {
        int num = input.nextInt();
        counts[num]++;
    }
    return counts;
}
(PCM) Common Ideas in Array Patterns

- Loop bounds
- Direction of traversal
- Indexing into an array
Final exam

- To C3 and the website!
Learning Objectives

or, “What did I learn in this class?”

1. **Computational Thinking** Create an algorithm to solve a given problem and express that algorithm in a structured way (e.g. pseudocode)

2. **Comprehension** Trace and predict the behavior of programs and systems

3. **Code Writing** Write functionally correct Java programs that meet a provided specification using control structures, primitive data types, and basic data abstractions

4. **Communication** Clearly and effectively describe the behavior of a given code snippet

5. **Debugging** Identify errors in a method’s behavior & implement fixes for identified errors

6. **Decomposition** Solve problems by breaking them into subproblems and recombining the solutions using techniques such as methods

7. **Ethics/Impact** Describe ethical and sociotechnical issues related to software and technology and explain how their choices as programmers can impact those issues
Thank you!

• This is still a very new course! We are always looking for feedback on how to improve the class for you and for future students! Thank you for your patience and understanding as we continue to improve these new assignments, resources, and examples.
  • We really value your feedback!
  • Let us know what is or isn't working for you!
  • Something that went well in another course? Tell us about it!

• ...Please fill out course evals by **August 18th at 11:59pm** to provide feedback about the course!
Future Courses

or “What can I do next?”

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<thead>
<tr>
<th>Course</th>
<th>Overview</th>
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<tbody>
<tr>
<td>CSE 154</td>
<td>Intro. to web programming (several languages)</td>
</tr>
<tr>
<td>CSE 163</td>
<td>Intermediate programming, data analysis (Python)</td>
</tr>
<tr>
<td>CSE 180</td>
<td>Introduction to data science (Python)</td>
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<tr>
<td>CSE 373</td>
<td>Data structures and algorithms (non-majors)</td>
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<tr>
<td>CSE 374</td>
<td>Low-level programming and tools (C/C++)</td>
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<tr>
<td>CSE 416</td>
<td>Intro. to Machine Learning</td>
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Majors

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<td>CSE 311</td>
<td>Mathematical foundations</td>
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<tr>
<td>CSE 351</td>
<td>Low-level computer organization/abstraction 😊</td>
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<td>CSE 331</td>
<td>Software design/implementation</td>
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<td>CSE 341</td>
<td>Programming languages</td>
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<td>CSE 340</td>
<td>Interaction programming</td>
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Non-majors

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<tr>
<td>CSE 122</td>
<td>Introduction to Computer Programming II</td>
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<tr>
<td>CSE 123</td>
<td>Introduction to Computer Programming III</td>
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Other tech-related majors:
Informatics, ACMS, Electrical & Computer Engineering, ...

Applications of CS

or “What can I do with what I learned?”

- Detect and prevent toxicity online
- Digitize basketball players
- Help DHH people identify sounds
- Figure out how to best distribute relief funds
- Recognize disinformation online
- Make movies
- Improve digital collaboration
- Fix Olympic badminton & Identify cheating in chess
- And so much more!
Frequently Asked Questions

• How can I get better at programming?
  • Practice!

• How can I learn to X?
  • Search online, read books, look at examples :)

• What should I work on next?
  • Anything you can think of! (Here are some ideas)
  • Beware: it’s hard to tell what’s easy and what’s hard.

• Should I learn another language? Which one?
  • That depends—what do you want to do?

• What’s the best programming language?
  • 😏 (take CSE 341 or CSE 413)