

CSE 121 – Lesson 18

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Autumn 2023

Music: [121 23au Lecture Tunes](#) 



[sli.do #cse121](https://sli.do/#cse121)

TAs:	Trey	Christina	Sahej	Vinay	Kriti
	Sebastian	Colton	Anju	Maria	Minh
	Annie	Janvi	Jonus	Shreya	Vivian
	Jasmine	Arkita	Lydia	Andy	Nicole
	Christian	Vidhi	Luke	Nicolas	Simon
	Lucas	Ritesh	Andras	Shayna	Jessie
	Logan	Hibbah	Archit	Hannah	Lydia
	Jacob	Julia	Ayesha	Aishah	Yijia

Announcements, Reminders

- P3 due **Thursday December 7 11:59pm**
 - Video walkthrough of the spec is up!
 - Visualization tool and Check button are also functional now
 - Spec has been updated!
- Gumball (& friends) Visit on Monday, December 11 1:00pm-3:00pm
- Final Exam: **Wednesday, December 13 12:30pm-2:20pm**
 - TA-led Final Review Session Tuesday, December 12 4:30pm-7:00pm in ARC 147
 - One 8.5x11 inch sheet of notes (double-sided, handwritten or typed)

(PCM) Counting Elements that Meet a Condition

"one"	"two"	"three"	"six"	"seven"	"eight"	"ten"
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```
public static int evenLength(String[] list) {  
    int countEven = 0;  
    for (int i = 0; i < list.length; i++) {  
        if (                ) {  
            countEven++;  
        }  
    }  
  
    return countEven;  
}
```

(PCM) Modifying Elements of an Array

4	8	15	16	23	42
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```
public static void clamp(int min, int max, int[] list) {  
    for (int i = 0; i < list.length; i++) {  
        if (                > max) {  
                = max;  
        } else if (                < min) {  
                = min;  
        }  
    }  
}
```

(PCM) Searching for an Element

"one"	"two"	"three"	"six"	"seven"	"eight"	"ten"
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```
public static int indexOfIgnoreCase(String phrase, String[] list) {  
    for (int i = 0; i < list.length; i++) {  
        if (  
            return  
        }  
    }  
    return  
}
```

(PCM) Shifting Elements

9.6	-88.0	4.815	0.009	7.0184	42.9
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```
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];  
    }  
  
}
```

(PCM) Looking at Multiple Elements in an Array

0	1	9	1	0
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```
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"

8 3 0 1 2 2 0 7 2

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


(PCM) Common Ideas in Array Patterns

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