Credit Name: CSE 2120 Data Structure 1
Assignment Name: Palindrome Mastery Project

How has your program changed from planning to coding to now? Please explain?

The Palindrome project was, I found, more about string manipulation and recognizing patterns. It helped me understand how to strip unnecessary spaces and ignore capitalization to check if a word or phrase was the same forwards and backwards. For instance, the program could handle simple words like "kayak" but also phrases like "Never odd or even." The main idea there was working with loops and comparisons to match characters from the start and end of the string.

```java
// Method to check if a string is a palindrome
public static boolean isPalindrome(String str) {
    // Remove spaces and make the string lowercase for uniform comparison
    String cleanStr = str.replaceAll("[^a-zA-Z0-9]", "").toLowerCase();

    // Use two-pointer technique to check for palindrome
    int left = 0;
    int right = cleanStr.length() - 1;

    while (left < right) {
        if (cleanStr.charAt(left) != cleanStr.charAt(right)) {
            return false;
        }
        left++;
        right--;
    }

    return true;
}
}
```

What I enjoyed most was how intuitive the logic felt once I broke the problem into smaller steps. The hardest part was making sure the program worked consistently for multi-word inputs, but handling that edge case added an interesting layer to the project.