

Credit Name: CSE2140 2nd Language Programming

Assignment Name: Palindrome Mastery

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

Declared a string variable for the phrase the user will input , an int variable that will be the length of the phrase, a char array and a boolean that is true.

```
public static void main(String[] args) {  
    // TODO Auto-generated method stub  
    //Declaration area  
    String phrase;  
    int length;  
    char[] letters;  
    boolean isPalindrome = true;
```

Prepared for user input

```
//Prepare for user input  
Scanner userInput = new Scanner(System.in);
```

Prompted user to input a string and initialized it.

```
//Prompt user  
System.out.println("Please enter a string:");  
phrase = userInput.nextLine();
```

Removed all the spaces and punctuation from the string.

```
//Removing spaces and punctuation  
phrase = phrase.replaceAll("\\W", "");
```

Changed all the characters into uppercase and turned the string into a char array.

```
//Separates characters  
phrase = phrase.toUpperCase();  
letters = phrase.toCharArray();
```

Figured out the array length.

```
//String length  
length = letters.length - 1;
```

Used a for loop to loop until the counter is greater than the length of the array. Compared the characters in the array, if it was not equal to each other, the loop would break and return false.

```
//Loops until counter is greater than length  
for (int i = 0; i < length; i++) {  
    //Compares characters  
    if (letters[i] != letters[length]) {  
        isPalindrome = false;  
        break;  
    }  
    length--;  
}
```

If it did not return false(stayed true), display that it is a palindrome, else display that it is not a palindrome.

```
//Display answer  
if (isPalindrome) {  
    System.out.print("This string is a palindrome.");  
}  
else {  
    System.out.print("This string is not a palindrome.");  
}
```