9. String Palindrome

Problem: Write a Java program to check if a given string is a palindrome.

Test Cases:

Input: "madam"

Output: true

Input: "hello"

Output: false

1. Here’s a continuation of the list of assignment questions starting from question 21, with two test cases for each:  
     
   explanation

his method takes a string str and checks if it is a palindrome.

Initializes two pointers: i at the beginning (0) and j at the end (str.length() - 1) of the string.

Uses a while loop to compare characters from the start and end, moving towards the center.

If characters at i and j are not equal, it returns false.

If the loop completes without finding any unequal characters, it returns true.

**question9 Class**:

**Main Method**: This is the entry point of your program.

**User Input**: It prompts the user to type a word and stores it in the string str.

**Object Creation**: Creates an object pobj of the Palindrome class.

**Method Call**: Calls the Check method with the user input string to check if it is a palindrome.

**Conditional Output**: Prints whether the word is a palindrome based on the result from the Check method.

flowcharts  
 Start

|

v

Type a word (Read input `str`)

|

v

Create `Palindrome` object (`pobj`)

|

v

Call `Check` method with `str`

|

v

Initialize `i = 0`, `j = length of str - 1`

|

v

While `i < j`

|

v

Is `str.charAt(i) == str.charAt(j)` ?

| |

No Yes

| |

Return false | Increment `i`, Decrement `j`

|

v

Loop back to `While i < j`

|

v

Return true

|

v

Is `bRet true` ?

| |

Yes No

| |

Print "The word is a palindrome" | Print "The word is not a palindrome"

|

v

End  
  
  
