1. Given a string str, find whether the string was a palindrome or not using stack.

<https://beginnersbook.com/2014/01/java-program-to-check-palindrome-string/>

<https://www.youtube.com/playlist?list=PLt4nG7RVVk1gDMcCZkpjOxZS4XMro29DU>

http://java2novice.com/java-interview-programs/revese-singly-linked-list/v

1. **Program 1: Palindrome check Using Stack**

A string is called a palindrome string **if the reverse of that string is the same as the original string**. For example, radar , level , etc. Similarly, a number that is equal to the reverse of that same number is called a palindrome number. For example, 3553, 12321, etc.

1. In this example, user enter a string. The program iterates over the input string by running a loop from 1 to the length of the string  and adds each character of the string to the stack using **push() method**.
2. Once all the characters of the given string are added to the stack. The program runs a while loop until the stack is empty and at each iteration removes the last character of the string using **pop() method** and adds it to the reverseString variable.
3. The pop() method removes the **last character from the stack**. In the last step compare the string and reverseString to check if the string is palindrome or not.
4. import java.util.Stack;
5. import java.util.Scanner;
6. class PalindromeTest {
7. public static void main(String[] args) {
8. System.out.print("Enter any string:");
9. Scanner in=new Scanner(System.in);
10. String inputString = in.nextLine();
11. Stack stack = new Stack();
12. for (int i = 0; i < inputString.length(); i++) {
13. stack.push(inputString.charAt(i));
14. }
15. String reverseString = "";
16. while (!stack.isEmpty()) {
17. reverseString = reverseString+stack.pop();
18. }
19. if (inputString.equals(reverseString))
20. System.out.println("The input String is a palindrome.");
21. else
22. System.out.println("The input String is not a palindrome.");
23. }
24. }

Output 1:

Enter any string:abccba

The input String is a palindrome.

Output 2:

Enter any string:abcdef

The input String is not a palindrome.

Example: madam, lol, pop, radar, etc.

This Java program asks the user to provide a string input and checks it for the Palindrome String.

* *Scanner class* and its function *nextLine()*is used to obtain the input, and *println()* function is used to print on the screen.
* *Scanner class* is a part of *java.util package*, so we required to import this package in our Java program.
* We also required to create an *object of Scanner class* to call its functions.

import java.util.Scanner;

class ChkPalindrome

{

public static void main(String args[])

{

String str, rev = "";

Scanner sc = new Scanner(System.in);

System.out.println("Enter a string:");

str = sc.nextLine();

int length = str.length();

for ( int i = length - 1; i >= 0; i-- )

rev = rev + str.charAt(i);

if (str.equals(rev))

System.out.println(str+" is a palindrome");

else

System.out.println(str+" is not a palindrome");

}

}

Enter a string:

radar

radar is a palindrome

To check if a string is a palindrome or not, a string needs to be compared with the reverse of itself.

Consider a palindrome string: **radar**,