Write a program using choice to check

Case 1: Given string is palindrome or not

Case 2: Given number is palindrome or not

CODE:

import java.util.Scanner;

public class PalindromeChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Choose an option:");

System.out.println("1. Check if a given string is a palindrome.");

System.out.println("2. Check if a given number is a palindrome.");

System.out.print("Enter your choice (1 or 2): ");

int choice = scanner.nextInt();

scanner.nextLine(); // Consume newline

switch (choice) {

case 1:

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

String str = scanner.nextLine();

if (isPalindrome(str))

System.out.println("The string is a palindrome.");

else

System.out.println("The string is not a palindrome.");

break;

case 2:

System.out.print("Enter a number: ");

int num = scanner.nextInt();

if (isPalindrome(num))

System.out.println("The number is a palindrome.");

else

System.out.println("The number is not a palindrome.");

break;

default:

System.out.println("Invalid choice.");

}

}

// Function to check if a string is palindrome

public static boolean isPalindrome(String str) {

str = str.replaceAll("[^a-zA-Z0-9]", "").toLowerCase();

int left = 0;

int right = str.length() - 1;

while (left < right) {

if (str.charAt(left) != str.charAt(right))

return false;

left++;

right--;

}

return true;

}

// Function to check if a number is palindrome

public static boolean isPalindrome(int num) {

int originalNum = num;

int reversedNum = 0;

while (num != 0) {

int digit = num % 10;

reversedNum = reversedNum \* 10 + digit;

num /= 10;

}

return originalNum == reversedNum;

}

}

OUTPUT:

C:\javap>javac PalindromeChecker.java

C:\javap>java PalindromeChecker

Choose an option:

1. Check if a given string is a palindrome.

2. Check if a given number is a palindrome.

Enter your choice (1 or 2): 2

Enter a number: 1

The number is a palindrome.

