**QUESTION 1 :-**

import java.util.Scanner;

public class WordChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

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

String word = scanner.nextLine();

scanner.close();

if (isCorrectWord(word)) {

System.out.println("The word is correct.");

} else {

System.out.println("The word is incorrect.");

}

}

public static boolean isCorrectWord(String word) {

// Check for characters other than alphabets and numbers

for (char c : word.toCharArray()) {

if (!Character.isLetterOrDigit(c)) {

return false;

}

}

// Check for consecutive characters that are the same

for (int i = 0; i < word.length() - 1; i++) {

if (word.charAt(i) == word.charAt(i + 1)) {

return false;

}

}

// If no issues were found, the word is correct

return true;

}

}

**QUESTION 2:-**

import java.util.HashSet;

import java.util.Scanner;

public class ArrayValidityChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Enter 100 unique numbers from 1 to 100:");

HashSet<Integer> uniqueNumbers = new HashSet<>();

for (int i = 0; i < 100; i++) {

int num = scanner.nextInt();

if (num < 1 || num > 100 || uniqueNumbers.contains(num)) {

System.out.println("Invalid input. Please enter unique numbers between 1 and 100.");

scanner.close();

return;

}

uniqueNumbers.add(num);

}

System.out.println("The array is valid.");

scanner.close();

}

}

**QUESTION 3:-**

import java.util.Arrays;

import java.util.Comparator;

public class SortOddsAndEvens {

public static void main(String[] args) {

int[] numbers = {56, 67, 24, 3, 88, 17, 55};

Arrays.sort(numbers, new Comparator<Integer>() {

@Override

public int compare(Integer a, Integer b) {

// Custom comparator to sort odd numbers first, then even numbers

if (a % 2 == 0 && b % 2 != 0) {

return 1; // Even numbers come after odd numbers

} else if (a % 2 != 0 && b % 2 == 0) {

return -1; // Odd numbers come before even numbers

} else {

return a - b; // For odd-odd or even-even comparisons, sort in ascending order

}

}

});

System.out.println("Sorted array: " + Arrays.toString(numbers));

}

}

**QUESTION 4:-**

import java.util.Scanner;

public class OtherNameFinder {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter your name: ");

String name = scanner.nextLine();

scanner.close();

String otherName = findOtherName(name);

System.out.println("Your other name is: " + otherName);

}

public static String findOtherName(String name) {

StringBuilder otherNameBuilder = new StringBuilder();

for (char letter : name.toCharArray()) {

if (Character.isLowerCase(letter)) {

char otherLetter = (char) ('z' - (letter - 'a'));

otherNameBuilder.append(otherLetter);

} else if (Character.isUpperCase(letter)) {

char otherLetter = (char) ('Z' - (letter - 'A'));

otherNameBuilder.append(otherLetter);

} else {

otherNameBuilder.append(letter);

}

}

return otherNameBuilder.toString();

}}

**QUESTION 5: -**

import java.util.Scanner;

public class ValueMapper {

public static void main(String[] args) {

int[] intArr = {2, 34, 1, 45};

String[] strArr = {"a", "f", "e", "v"};

Scanner scanner = new Scanner(System.in);

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

String input = scanner.nextLine();

scanner.close();

String result = mapValue(intArr, strArr, input);

if (result != null) {

System.out.println("Corresponding value: " + result);

} else {

System.out.println("Value not found.");

}

}

public static String mapValue(int[] intArr, String[] strArr, String input) {

for (int i = 0; i < intArr.length; i++) {

if (input.equals(Integer.toString(intArr[i]))) {

return strArr[i];

}

}

for (int i = 0; i < strArr.length; i++) {

if (input.equals(strArr[i])) {

return Integer.toString(intArr[i]);

}

}

return null; }

}