Strings and Arrays in Java

Exercise 1:

Write a Java program that stores student grades entered via the keyboard in an array named grades, and allows the following operations to be performed:

1. Sort and display the list of grades.
2. Display the average grade.
3. Display the highest and lowest grades.
4. Display the number of students with a grade entered by the user.

NB: To sort the array, use Arrays.sort().

Exercise 2:

Write a program that reads a first group verb and displays its conjugation in the present tense in the following form:

Entrez un verbe du premier groupe : chanter

- ➔ je chante
- ➔ tu chantes
- ➔ il/elle chante
- ➔ nous chantons
- ➔ vous chantez
- ➔ ils/elles chantant

The program will check that the verb ends in er (in French) and assume that it is a regular verb.

Exercise 3:

Write a Java program that performs a set of operations on any character string entered from the keyboard. This program consists of a menu with a choice of operations to perform. The operations on this string are as follows:

1. Enter: read a character string from the keyboard and store it in a variable.
2. Display: display the entered string.
3. Reverse: reverse the entered string.
4. Number of words: count the number of words in the string. The character ‘ ’ (space) is considered the word separator. There may be several consecutive spaces in the string.

After each operation, the program returns to the menu after displaying the message: “Press any key to return to the menu.”

Exercise 4:

Write a Java program that reads a string of characters ch from the keyboard and counts the occurrences of letters in the alphabet without distinguishing between uppercase and lowercase letters. Use a 26-dimensional array nb_occurrences to store the result. Display only the number of letters that appear at least once in the text.

Example:

Enter a line of text (max. 100 characters): Jeanne

The string “Jeanne” contains:

1 occurrence of the letter ‘A’

2 occurrences of the letter ‘E’

1 occurrence of the letter ‘J’

3 occurrences of the letter 'N'