**In each exercise make your source code and output readable.**

**Exercise 1.** In a program, create a two-dimensional array of 3 rows and 4 columns of integers with some initial values. Display the array in a matrix form.
Compute and display sums from each row. Compute and display sums from each column.
Some sample interaction with the program might look like this:

```
1 2 3 4
5 6 7 8
9 0 1 2
Sum from rows: 10 26 12
Sum from columns: 15 8 11 14
```

**MODIFICATION 1.** Create an array of random integers from the range [a, b], a, b are given by the user.
**MODIFICATION 2.** Compute and display the largest values from each column. Compute and display the largest values from each row.

**Exercise 2.** In a program get a sentence from the user and store that sentence in an array of 50 characters.
(a) Display the sentence with an additional space between the characters.
(b) Display the sentence from end to beginning.

**Exercise 3**. In a program get a sentence from the user and store that sentence in an array of 50 characters.
(a) Compute and display how many times the character given by the user occurs in the sentence.
(b) Compute and display how many times lowercase letters occur in the sentence.

**Exercise 4.** In a program get a sentence from the user and store that sentence in an array of 50 characters. Replace all lowercase letters by corresponding uppercase letters. Display the array after replacement.

**Exercise 5.** Add two 3x3 matrices. Implement matrices as a two-dimensional array of doubles.

**Exercise 6.** In a program get a word from the user and store the word in an array of 100 characters. Check whether the given word is a palindrome.
For example palindromes are: madam level civic kayak lol noon refer

```
Palindrome: a word, phrase, number, or other sequence of symbols or elements, whose
meaning may be interpreted the same way in either forward or reverse direction. The
word "palindrome" was coined from the Greek roots palin ("again") and dromos ("way,
direction") by the English writer Ben Jonson in the 17th century.
```

**MODIFICATION** (**complex**) In a program get a sentence from the user and store it in an array of characters of fixed size. Check whether the given sentence is a palindrome.
For example: ‘Tell a ballet.’ ‘Mad as Adam.’ ‘My gym.’ ‘I did, did I?’ ‘Flee to me, remote elf.’ are palindromes.

**Exercise 7. (complex)** In a program create a two-dimensional array to store n points from the plane. Find two points for which the Euclidean distance attains the largest value.