Exercises 7 Arrays (cont.)

Exercise 7.1 sum of the first integers

Write a program that takes a number **n** which and a table with the largest index is n, and wherein there is, for each cell of index i, the sum of the integers between 0 and i.
For example, if **n** is 3, the table will be:
index: 0 1 2 3
cell : 0 1 3 6
The value of the indexed cell is the sum of three integers between 0 and 3,
ie. 0 +1 +2 +3 = 6.

Exercise 7.2 - Boolean array

Write a program that captures 4 boolean values (true or false in Java) and then displays the result of the operation on all these values.
For example, if the table is: **`true true false true`**
The result is the value of **`true && true && false && true`**, that is **`false`**.

Exercise 7.3 - Euros conversion

This exercise continues the theme of an example of the first lab. This is to calculate a array of values obtained by converting RMB values from another array, expressed in euros.
In this program, there will be two array, and euros and renminbis. Your program will capture from the keyboard a number of values in euros. Then the array of trenminbis can be calculated.
At the end, the two arrays will be displayed.

Exercise 7.4 - Insertion of values in a table

In this exercise, the user inserts into a character array. Initially, the table is as follows:

```
  0     1     2     3
'X'   'r'   '1'   'b'
```

Question 7.4.1

The user enters the number of characters that will be added to the table and the index from which it wants to insert the characters. Note that the array size is fixed in Java, we can not really add more elements. What we can do is to create a new array by copying the values from the old array and the new values inserted in accordance with the request.

For example, the insertion of 'a', 'z', 't' at index 2 will give the new array:

```
 0    1    2    3    4    5    6
'x'  'r'  'a'  'z'  't'  'l'  'b'
                                                    -
```

Question 7.4.2

Modify your program so that successive insertions are possible, as long as the user wishes.