Homework

Grade 11 Review 3 – Arrays

1. **Simple1DArray.java** Write a program to perform each task (in separate loops):
   a. Ask user to enter an integer *n*, then declare an array of integer of size *n*
   b. Initialize all elements of the array to one
   c. Ask user to enter *n* integers, and fill the arrays with these integer in order
   d. Switch the values at either end of the array
   e. Change any negative values to positive values (of the same magnitude)
   f. Set the variable `sampleSum` to the sum of the values of all the elements
   g. Print all the even numbers in the array

2. **Reverse.java** Write a program that initialized an array of size 14 with user input and then reverses the order of the values in the array using the specified methods:
   a. The first version uses two arrays. The original array is not changed. The second array gets the elements of the first array in reversed order. The content of the second array is then printed in order.
   b. In the second version, there is only one array and its values are reversed and printed.

3. Assume the array `data` has been initialized as followed:

```
int[][] data = {{3, 2, 5},
                {1, 4, 4, 8, 13},
                {9, 1, 0, 2},
                {0, 2, 6, 4, -1, -8}};
```

   NonUniform2DArray.java Write a program that computes the sum of all the elements of the array. Your program should work even if the dimensions of the rows and columns are changed. So use `length` rather than hard-coded numbers.

4. **Marks.java** Your program should perform the following tasks
   a. Ask user to enter the number of students and the number of tests
   b. Ask user to enter each of the test marks for all students
   c. Calculate and output the average of each student
   d. Output the student (represented by the index) with the highest average
   e. List the students whose average is higher than the class average