Northeastern Illinois University
CS 200: Programming I
Professor Yehuda Gutstein
Homework

Please zip all HW files, including source files (.java) and results (.txt) for this week in ONE folder and submit on D2L.

HW is due prior to the start of the next class.

At the beginning of each .java file, please include (in comments):
//CS200
//(insert here: Semester, Year)
//Student Name
//Instructor: Y. Gutstein
//HW #x: (Name of HW)
//Due: (insert due date here)
//File name: (Insert FileName).java

HW #1: Arrays + Methods

Write a method that has the following header:

public static boolean sameFirstLast(int[] nums)

Given an array of integers, return true if the array is length 1 or more, and if the first element and the last element are equal.
Your method should be able to handle any array size.
Test your method by invoking it in the main method. Your method should produce the following values when invoked in the main method:
sameFirstLast({1,2,3}) −→ false
sameFirstLast({1,2,3,1}) −→ true
sameFirstLast({1,2,1}) −→ true

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HW #2: Arrays + Methods

Write a method that has the following header:

public static int sumAll(int[] nums)

Given an array of integers, return the sum of all of the elements.
Your method should be able to handle any array size.
Test your method by invoking it in the main method. Your method should produce the following values when invoked in the main method:
sumAll({1,2,3}) −→ 6
sumAll({1,2,3,1}) −→ 7
sumAll({1,22}) −→ 23

HW #3: Arrays + Methods

Write a method that has the following header:

public static boolean commonEnd(int[] a, int[] b)

Given 2 arrays of integers, a and b, return true if they have the same first element or they have the same last element.
Your method should be able to handle any array size. The two arrays do not have to be the same size.
Test your method by invoking it in the main method. Your method should produce the following values when invoked in the main method:
commonEnd({1,2,3},{7,3}) −→ true
commonEnd({1,2,3},{7,3,2}) −→ false
commonEnd({1,2,3},{1,3}) −→ true

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HW #4: Arrays + Methods

Write a method that has the following header:

public static int[] makeMiddle(int[] nums)

Given an array of integers of even length, return a new array of length 2 containing the middle two elements from the original array. The original array will be length 2 or more. Your method should be able to handle any even array size.
Test your method by invoking it in the main method. Your method should produce the following values when invoked in the main method:
makeMiddle({1,2,3,4}) −→{2,3}
makeMiddle({7,1,3,2,4,9}) −→{3,2}
makeMiddle({1,2}) −→{1,2}

HW #5: Arrays + Methods

Write a method that has the following header:

public static int bigDiff(int[] nums)

Given an integer array of length 2 or more, return the difference between the largest and smallest values in the array.

Note: the built-in Math.min(a, b) and Math.max(a, b) methods return the smaller or larger of two values.
Your method should be able to handle any even array size.
Test your method by invoking it in the main method. Your method should produce the following values when invoked in the main method:
makeMiddle({10,3,5,6}) −→ 7
makeMiddle({7,2,10}) −→ 8
makeMiddle({11,2,9,4,1}) −→ 10