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MERCY COLLEGE

Department of Mathematics and Computer Sciences

CISC 311 Object/Structure/Algorithm I

Fall 2018

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**Office Hour:** Tuesday 3:00 – 5:00 pm & Wednesday 12:00 – 2:00 pm

**Textbook:**

*Data Structures & Algorithms in Java*, by Michael T. Goodrich, Roberto Tamassia, and Michael H. Goldwasser, 6th ed., Wiley, 2014. ISBN-13: 978-1118771334, ISBN-10: 1118771338

**Homework (100 pts):**

Given an array of `ints`,

1. write a method named `calcSum` to sum values of the array and return it
2. write a method named `calcAvg` to calculate the average of array elements and return it
3. write a method named `reverse` to reverse the array and return the reversed array
4. write a method named `findMax` to find the largest element in the array and return it
5. write a method named `findSecMax` to find the second largest element in the array and return it
6. write a method named `findDuplicate` to find and return duplicates in the array if there are any
7. write a method named `removeDuplicates` to remove and return all the duplicate values in the array if there are any
8. write a method named `replaceNegative` to replace all the negative elements in the array with the positive value and return the array
9. write a method named `separate` to separate the array into two arrays based on whether the element values are even or odd and return these two arrays



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**Submission Instructions:**

1. Write all the programs into a .java file and name it *Lastname\_Firstname\_HW2.java*, e.g. John Adam's file name should be Adam\_John\_HW2.java.
2. Submit it through blackboard → Course Material → Assignment → Assignment\_2.

**Due:** 09/23/2018 11:59pm