

CS211: Algorithms & Data structures

Dr. Sameer M. Alrehaili

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srehaili@taibahu.edu.sa

college of computer science and engineering ,yanbu, Taibah
University

Assignment 1 Solution

1. Write an algorithm to get the second largest number in a given set of numbers?

Algorithm 1: Finding the second maximum number in a given set of number

Input: (a_1, a_2, \dots, a_n) , an array of n elements

Output: max , the maximum number in a

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1:  $max \leftarrow a_1$ 
2:  $l2 \leftarrow 0$ 
3:  $i \leftarrow 1$ 
4: while  $(i < n)$  do
5:   if  $a_i > max$  then
6:      $l2 \leftarrow max$ 
7:      $max \leftarrow a_i$ 
8:   else if  $a_i > l2$  then
9:      $l2 \leftarrow a_i$ 
10:  end if
11:   $i \leftarrow i + 1$ 
12: end while
13: return  $max$ 
```
