Show All Solutions

Rosen, Discrete Mathematics and Its Applications, 7th edition, Global Edition
Extra Examples
Section 3.1—Algorithms

Extra Examples — *Page references correspond to locations of Extra Examples icons in the textbook.*

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p.194, icon at Example 1

#1.

(a) Describe an algorithm that determines the location of the last even integer in a nonempty list $a_1, a_2, \ldots, a_n$ of integers. (If no integer in the list is even, the output should be that the location is 0.)

(b) Describe the algorithm, with "last" replaced by "first".

See Solution

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p.194, icon at Example 1

#2. Describe an algorithm that takes as input a sequence of distinct integers $a_1, a_2, \ldots, a_n$ $(n \geq 2)$ and determines if the integers are in increasing order.

See Solution

p. 194, icon at Example 1

#3. Describe an algorithm that takes as input a positive integer n and gives as output the tens' digit of n. For example, if the input is the positive integer 3752, the output is 5; if the input is the positive integer 4, the output is 0 (because we can think of 4 as 04).

See Solution

p.194, icon at Example 1

#4. Describe an algorithm that takes as input a list of integers $a_1, a_2, \ldots, a_n$ (where $n > 2$) and determines if some a_i is equal to the average of an earlier entry in the list and a later entry in the list.

See Solution