

CSCI 135 Software Design and Analysis, C++

Lab 4

Saad Mneimneh
Hunter College of CUNY

Lab A: 3M

In this exercise, you will write functions to find the minimum, maximum, and median of an array of integers.

(a) Write a function called `minimum` that accepts an array of integers and its length and returns the value of the minimum element.

(b) Write a function called `maximum` that accepts an array of integers and its length and returns the value of the maximum element.

The median of an array is the middle element when the array is rearranged from lowest to highest (if the number of elements is even, we take either one of the middle two). For example, if the array is `[5, 9, 11, 5, 3]`, the median is 5. If the array is `[5, 9, 11, 5, 3, 10]` the median is either 5 or 9 (does not matter). We will assume that the array contains integers that are not necessarily unique.

(c) Write a function called `left` that accepts an array a and its length and an integer i and returns the number of elements in a that are less than or equal to i .

(d) Write a function called `right` that accepts an array a and its length and an integer i and returns the number of elements in a that are greater than or equal to i .

(e) Write a function called `median` that accepts an array a and its length and returns the value of the median. Your function should use your work in (c) and (d) to find the answer.