

Algorithms

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1 Administrivia

Announcements

Written quiz Friday.

Assignment

No reading, no online quiz.

From Last Time

JavaScript lab.

Outline

1. Introduction.
2. Lab.

Coming Up

Artificial Intelligence.

2 Introduction

An *algorithm* is a set of simple steps for accomplishing something. For example, a computation.

Here is an example for determining if any number in a list is negative.

I am going to give you a series of numbers, one at a time. When I am finished, I will say “End.” If any of the numbers is negative, you should say, “Yes, halt.” If I say “End,” you should reply, “No, halt.”

This algorithm will work for any finite list of numbers.

3 Lab

Working as a class, solve the following problems.

1. Form the sum of a list of numbers.
2. Find the smallest item in a list of numbers.
3. Determine the average of a list of numbers.
4. Determine if a list of numbers is sorted in ascending order. (Assume all items are unique.)
5. Determine if a list of numbers has size exactly five.
6. Determine if a list of numbers contains a specified number (provided first).
7. Sort a list of numbers into ascending order. (Assume all items are unique.)
8. Determine the median of a list of numbers.
9. Determine the most frequently occurring score (the mode) on an exam worth 100 points.