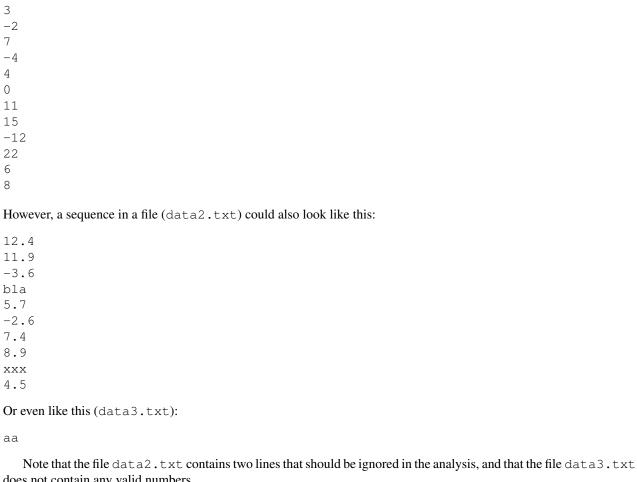
# Sequence Analysis

## Problem ID: p06sequenceanalysis

This project is an exercise in using files, lists and exceptions. Write a program that reads a floating point number sequence from an input file and outputs various information about the sequence. A typical sequence in a file (data1.txt) looks like this:



does not contain any valid numbers.

## Input

The input is a name of a file to be analysed, e.g. data1.txt or any other name ending in .txt. The input file contains 1-20 lines, where each line either contains a valid floating point number f, where  $-20 \le f \le 20$ , or any other string which is not a valid float.

### **Output**

The output is either nothing, in the case were the input data file does not contain any floats or if it cannot be opened, or it consists of the following four lines:

- 1. The numbers in the sequence
- 2. The cumulative sum of the numbers in the sequence
- 3. The sorted version (ascending order) of the numbers in the sequence
- 4. The median of the sequence

All numbers should be rounded to four digits after the decimal point.

#### Sample Input 1 Sample Output 1

	•
data1.txt	5.0 3.0 -2.0 7.0 -4.0 4.0 0.0 11.0 15.0 -12.0 22.0 6.0 8.0 5.0 8.0 6.0 13.0 9.0 13.0 13.0 24.0 39.0 27.0 49.0 55.0 63.0
	5.0 8.0 6.0 13.0 9.0 13.0 13.0 24.0 39.0 27.0 49.0 55.0 63.0
	-12.0 -4.0 -2.0 0.0 3.0 4.0 5.0 6.0 7.0 8.0 11.0 15.0 22.0
	5.0

#### Sample Input 2

## Sample Output 2

data2.txt	12.4 11.9 -3.6 5.7 -2.6 7.4 8.9 4.5
	12.4 24.3 20.7 26.4 23.8 31.2 40.1 44.6
	-3.6 -2.6 4.5 5.7 7.4 8.9 11.9 12.4
	6.55

#### Sample Input 3

#### Sample Output 3

ſ	data3.txt	