CSCD 240
Lab 12

SPECIFICATION
You will write a statistics program which will maintain an array of int values and then perform various operations on the array:

- Compute the mean of the array
- Compute the median of the array
- Compute the standard deviation of the array

When the program starts you will prompt the user for the name of the input file. (You will use a static char array of size 100) If the file can't be opened then report it and reprompt the user. Once the file is open return the FILE *. This will occur inside fileUtils.c.

The data file looks like this

5 1 3 2 7 9
6 8 6 4 3 42 100

The first number on each line will contain the number of ints to follow. After reading in the total for each array, you will then create the array and fill it with the numbers from the file.

You will then perform the above calculations on the array. The user will be prompted for the name of an output file and the information will be written to both the screen and the output file. If for any reason the output file can't be opened then display an error message and exit the program.

You will compute the above on different arrays that are in the file. I have provided

- cscd240Lab12.c.
- utils.h (from Lab 10)
- utils.o (from Lab 10)
- fileUtils.h
- arrayUtils.h

This file cannot be changed in any fashion.

I have provided a simple worksheet on how to compute the above values.

Your task is to create:

- fileUtils.c (in utils)
- arrayUtils.c (in utils)
- lab12.c

TO TURN IN:

A zip file that only contains

- All C files needed to compile and run your program
- All input files
- All output files
- My provided Makefile
- A valgrind run named cscd240Lab12val.txt showing all is leak free.

Name the zip file your last name first letter of your first name lab12.zip (Example: steinerslab12.zip)