CS3335 Assignment 8 Due: 10/02/17

(10 points)

Introduction

There are two basic statistical values for a given a list of data `double x[MAX_ITEM]`:

- Mean: average of all data.

$$mean = \frac{\sum_{i=0}^{MAX\_ITEM-1} x[i]}{MAX\_ITEM}$$

- Standard deviation: a measure of the spread of the data values around the mean. A small (or large) standard deviation indicates that the data values are all relatively close to (or far from) the average.

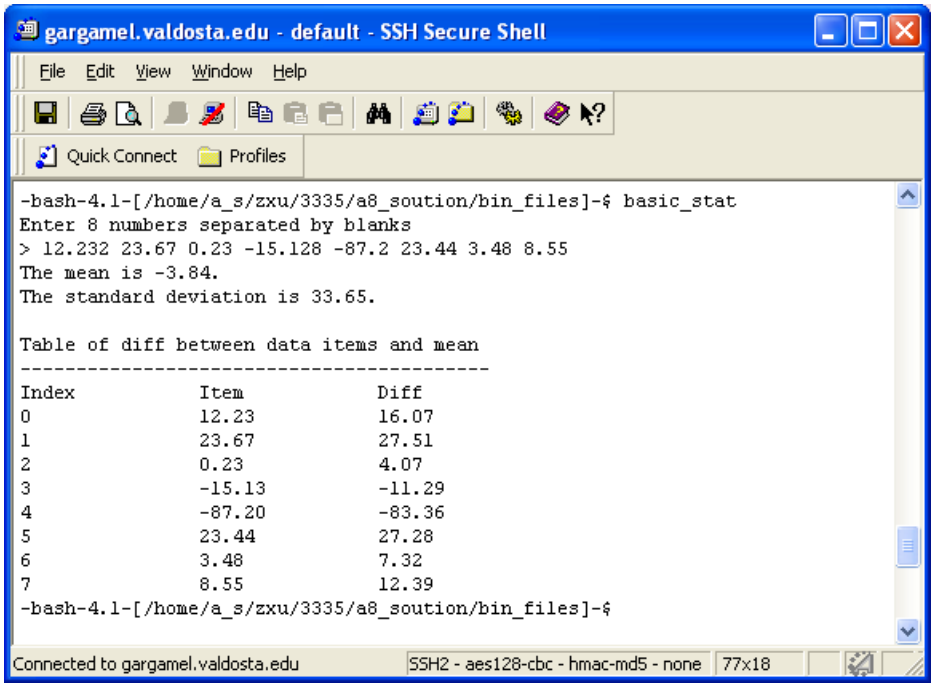
$$s\tan dard\_deviation = \sqrt{\frac{\sum_{i=0}^{MAX\_ITEM-1} (x[i])^2}{MAX\_ITEM} - mean^2}$$

Program details

In this assignment, you are asked to prompt the user to enter a set of numbers, compute and print the mean and standard deviation of them, and also print a table of differences between these numbers and the mean. To simplify your program, you may hardcode the size of this number set in your program:

```
#define MAX_ITEM 8
```

Please find below a screenshot of the sample output:



Although it is totally up to you how you design your program, it needs to satisfy the following rules:

- It consists of at least 3 source files (.c files) and at least 3 header files (.h files).
- Use "`make_examples_multiple_folders`" that we went over in class as your reference to organize your program:
    - `bin_files`/ : a subfolder that holds executable file(s)
    - `obj_files`/ : a subfolder that holds object file(s)
    - `inc_files`/ : a subfolder that holds header file(s)
    - `src_files`/ : a subfolder that holds source file(s)

- It comes with a workable `makefile`. Use `makefile.5` that we went over in class as your reference.

What to submit?

Create a tarball by the name of `cs3335_a8_yourlastname.tar` that contains your entire program folder.

Submit the tarball file through BlazeVIEW by the due time.