

CS256 — Homework 2

January 20, 2016

Due: Wednesday, January 27, 2016 before midnight (50 points)

Description

Write a C++ program in a file named `StdDev.cpp`. This program should have functions matching the following prototypes:

```
double sum(double values[], int size);  
double mean(double values[], int size);  
double stdDev(double values[], int size);
```

The `sum` function should calculate and return the sum of the values in the passed array.

The `mean` function should calculate and return the mean of the values in the passed array.

The `stdDev` function should calculate and return the standard deviation of the values in the passed array.

You can also include any other functions you need in your program.

The standard deviation can be calculated by the following process:

1. Determine the mean of all of the values.
2. Calculate the difference between each value and the mean.
3. Square each of these differences.
4. Determine the mean of the squared deviations.
5. Take the square root of the result.

In your `main` function, create a `double` array of size 10 and ask the user to input 10 `double` values to fill in the array. Calculate the standard deviation of these values and print it out.

Include comments at the beginning of your source code file that contain your name, the homework assignment number, and the date that you completed the assignment. For example, my submission's comments might look like this:

```
// Nick Pantic  
// Homework 2  
// Completed 1/27/2016
```

Submission

1. Create a project on <https://codebank.xyz> named CS256-HW2. Follow this naming convention precisely including case.
2. Locally, use `git` to add a reference to the remote repository with the `git remote add` command:

```
$ git remote add origin https://codebank.xyz/username/CS256-HW2.git
```

or clone the empty repository.
3. After committing your code locally, use `git push` to push the code to `codebank.xyz`. You can push as many commits as you want and continue to commit changes up until the deadline.

```
$ git push origin master
```