HW3 - Standard Deviation

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Assignment-3

I have included the standard deviation information in both a standalone .tex file and the doxygen .tex file.

Chapter 2

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2.1 File List

Here is a list of all documented files with brief descriptions:

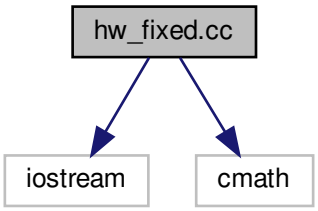
Chapter 3

File Documentation

3.1 hw_fixed.cc File Reference

```
#include <iostream>
#include <cmath>
```

Include dependency graph for hw_fixed.cc:



Functions

- double deviation (int *a, int n)

  Calculate the standard deviation of a set of numbers.

3.1.1 Function Documentation

3.1.1.1 deviation()

```
double deviation (
            int * a,
            int n )
```

Calculate the standard deviation of a set of numbers.

The formula that this function uses to calculate standard deviation is:

$$\sigma = \sqrt{\sum_{i=1}^{n} \frac{(\bar{x} - x_i)^2}{n}}$$

Where n is the size of the set of numbers, $\bar{x}$ is the average of the numbers in the set, and x_i denotes the ith element in the set.

Parameters

a	- The array of numbers to calculate the standard deviation of
n	- The size of the set of numbers

Returns

A double precision number of the standard deviation

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