# HW3 - Standard Deviation

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# Assignment-3

Starter Code for Assignment 3

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## 2.1 File List

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

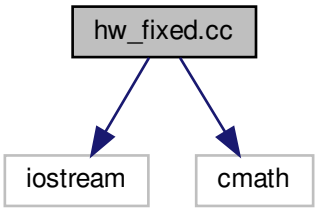
# Chapter 3

# 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.

Uses the formula:

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

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 $i$th 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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