CS 3560 HW3

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1.1 File List

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

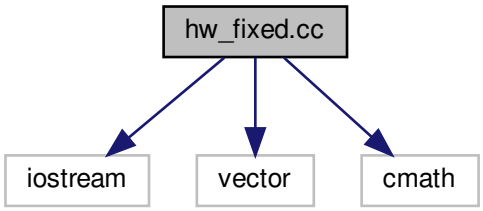
Chapter 2

File Documentation

2.1 hw_fixed.cc File Reference

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

Include dependency graph for hw_fixed.cc:



Functions

- double deviation (int *a, int n)

  This function finds the standard deviation of the data set from an array.

2.1.1 Function Documentation

2.1.1.1 deviation()

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

This function finds the standard deviation of the data set from an array.

Parameters

a	Variable for the array of the data set
n	Variable for the number of values in the array

Returns

Returns the standard deviation for the numbers in the array

Definition at line 14 of file hw_fixed.cc.

```
15 {
16     int sum = 0; //sum variable set to 0
17 
18     //for loop that sums up all of the numbers in the array
19     for(size_t i = 0; i <= n - 1; i++)
20     {
21         sum += a[i];
22     }
23 
24     double mean = sum/=(n-1); //mean of the set is the sum divided by the number of values in the set
25     double stddev = 0; //standard deviation variable set to 0;
26 
27     //for loop that gets the value needed to be square rooted for the standard deviation
28     for(size_t i = 0; i <= n - 2; i++)
29     {
30         stddev += (a[i] - mean) * (a[i] - mean);
31     }
32 
33     stddev /= (n-1); //value is divided by number of values in the array
34 
35     //"standard devation is zero" error message outputted to user
36     if(stddev == 0)
37     {
38         std::cout << "Sigma is zero." << std::endl;
39     }
40 
41     return sqrt(stddev); //function returns the square root of the value to get the standard deviation
42 
43 }
```

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