

CSC 150 LAB 3-2 VECTORS

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DEPT OF COMPUTER SCIENCE

1. SETTING UP

Start by creating a project and typing in the following code

```
#include <iostream>
#include <vector>
#include <string>

using namespace std;

double average(vector<double> vec)
{
    return 0;
}

int main()
{

}
}
```

You should not do anything in the `average` function that is not needed to compute the average. In particular, you must not do any printing in the `average` function.

2. A FUNCTION TO COMPUTE THE AVERAGE OF NUMBERS IN A VECTOR

- (1) Modify the code for the `average` function so that given a vector of values of type `double`, it returns the average (mean) of the values in the vector.
- (2) Modify the code for the `main` function so that it asks the user to enter a string describing a set of measurements, an integer n for the number of measurements, and a set of n measurements separated by spaces.

The `main` function then reads the string, the integer n , and reads the n measurements and stores them into a vector. Finally, the `main` function uses a call to the `average` function to compute the average of the measurements.

You should use the following local variables in `main`:

```
string description;
int number;
vector<double> measurements;
```

Here is what a sample run of the program should look like:

```
Enter a one-word description for the measurements: volume
How many measurements do you have? 2
Enter your measurements on the same line: 12.8 11.2
The average volume is 12
```

Here is another sample run:

```
Enter a one-word description for the measurements: density
How many measurements do you have? 4
Enter your measurements on the same line: 3.12 2.98 3.01 3.45
The average density is 3.14
```

3. OPTIONAL EXTRA CREDIT

For 10 % extra credit, make the program keep asking for a set of inputs until the user enters the word "none" when asked to enter a one-word description. At that point, the program exits.