CSE 165 - LAB 01

Points: 100

1. Hello World (10 pnts)
Write a program that prints out "Hello World, my name is <Your Name>!"

2. Area of a Circle (10 pnts)
Create a program that asks for the radius of a circle and prints the area of that circle.

3. Counting Words (20 pnts)
Create a program that opens a file named words.txt and counts the whitespace-separated words in that file.

-- words.txt
This is a file that contains many words.
Yes it does have so many words. Many, many words.
Well, maybe it is not that many after all.
So, just how many is MANY?
--

4. Word Occurrences (20 pnts)
Create a program that reads in a word from the user and counts the number of occurrences of that word in a file called words.txt.

-- words.txt
This is a file that contains many words.
Yes it does have so many words. Many, many words.
Well, maybe it is not that many after all.
So, just how many is MANY?
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5. Reversing a File (20 pnts)
The FillVector.cpp program prints its own lines with numbers at the beginning of each line. Modify this program in the following ways. First, make it read and print the lines of a file called "code.cpp". Second, print the same content with the line numbers reversed (i.e. starting with the highest number and counting down).

-- Fillvector.cpp
```cpp
#include <string>
#include <iostream>
#include <fstream>
#include <vector>
using namespace std;

int main()
{
        vector<string> v;
        ifstream in("file.txt");
        string line;
        while (getline(in, line)) //getline returns true if read successfully
                v.push_back(line); // Add the line to the end of v

        // Add line numbers:
        for (int i = 0; i < v.size(); i++)
                cout << i << ": " << v[i] << endl;
}
```
-- code.cpp
```cpp
#include <iostream>
#include <math.h>
```

Points: 100

```cpp
using namespace std;

int main(int argc, char *argv[]) {
        double a, b, c;

        cin >> a;
        cin >> b;
        cin >> c;

        cout << (-b + (sqrt((b * b) - (4 * a * c)))) / (2 * a) << endl;
        cout << (-b - (sqrt((b*b) - (4 * a * c)))) / (2 * a) << endl;
}
--
```

6. Change Fillvector.cpp so that it concatenates all the elements in the vector into a single string before printing it out, but do not try to add line numbering. Again, read the file named "code.cpp" as in the previous exercise. (20 pnts)

Instruction for submission:
1. Zip all your .cpp files together
2. Submit the zip folder to the catcourse