

## Test One Recap Homework

Name: \_\_\_\_\_

1. The following three sub-questions will not affect your grade in any way (as long as they are answered), but are to help everyone moving forward. We'll summarize results later.

a. How many of the practice practicum problems did you do?  
(you can count the one required one)

b. If you were very solid on the practicum (grade 90+), what did you do during the first 6 weeks of class that you think helped you?

c. On the other hand, if your grade was  $< 90$  on the practicum, what will you do differently during the next 6 weeks of class?

2. (You can write this on Visual Studio if you want, but it's not required.) Write a program that implements the Babylonian square root algorithm :

Read N from the user, then find  $\text{sqrt}(N)$  by:

- 1. Guess a number ( $N/2$  is a good guess)
- 2. set  $r$  equal to  $N / \text{guess}$
- 3. set  $\text{guess}$  equal to  $(\text{guess} + r) / 2$
- 4. repeat steps 2 and 3 as many times as needed (for this, assume 5 times is enough)
- 5. output  $\text{guess}$

```
#include <iostream>
using namespace std;
```

```
int main()
{
```

```
    return 0;
}
```

3. Output the result of following code:

```
#include <iostream>
#include <fstream>
using namespace std;

int main()
{
    // Open ifstream to "infile"
    ifstream fin("input.txt");

    // Read & sum each number in file
    int k, sum;
    sum = 0;
    while (fin)
    {
        fin >> k;
        sum = sum + k;
    }

    // Print out result
    cout << sum << endl;
    return 0;
}
```

- If input.txt is: 4 3 5 1

- If input.txt is: 4 3 x 2

4. Find all the logical and syntactical errors in the following code and correct them. There are 10!

```
/******  
This program should read a series of English measurements  
in the form:
```

```
13.5 ft  
12 in
```

```
and should output their equivalent in meters:  
4.1148 m  
0.3048 m
```

```
*****/  
#include <iostream>  
#include <string>  
using namespace std;  
  
int main()  
{  
    // User enters file name  
    string file;  
    int number;  
    char unit;  
  
    cout << "Enter name of input file: ";  
    cin >> file;  
  
    // Open data file  
    ifstream fin(file);  
    if (fin)  
    {  
        cout << "Error opening file!" << endl;  
        return 0;  
    }  
  
    while (fin >> number >> unit)  
    {  
        if (unit = "ft")  
            meters = number * 3.28;  
        else (unit = "in")  
            meters = number * 3.28 * 12;  
    }  
    cout << meters << "m" << endl;  
    return 0;  
}
```