

Jeremy Scheuerman

Dr. Peter Wang

## Lab 3

### 3.1

```
D:\Documents\Codeblocks\files\lab_3.1.exe
Please input the number of items bought
4
Input Price:
45.6
The Total Bill is $182.40
Process returned 0 (0x0)    execution time : 9.832 s
Press any key to continue.
```

1.

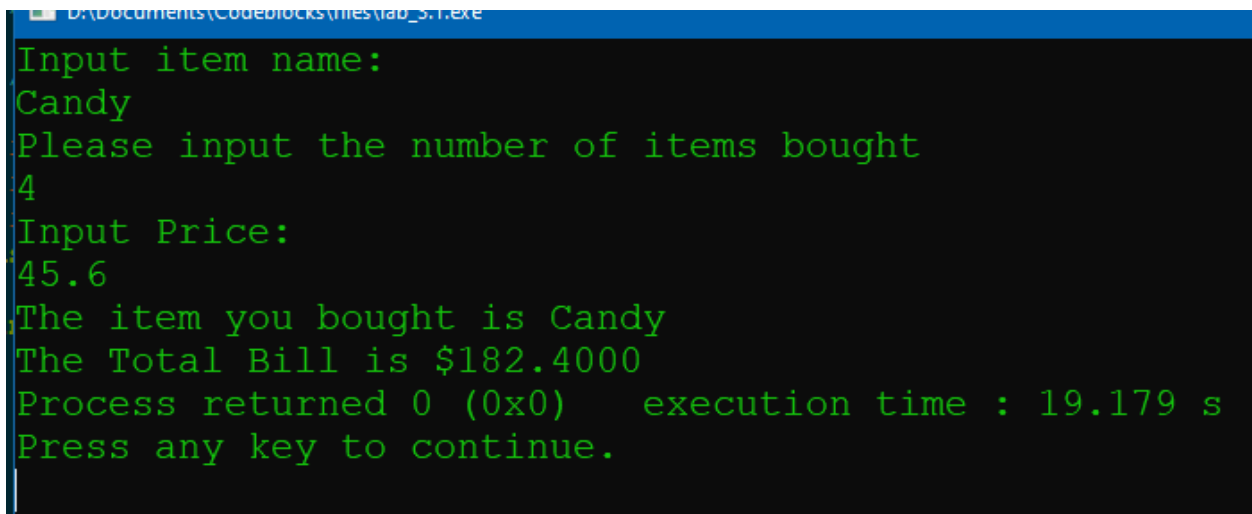
2. The fixed statement puts the number in fixed notation

```
D:\Documents\Codeblocks\files\lab_3.1.exe
Please input the number of items bought
4
Input Price:
45.6
The Total Bill is $1.8e+002
Process returned 0 (0x0)    execution time : 5.520 s
Press any key to continue.
```

3. changes it to 4 decimal places

```
D:\Documents\Codeblocks\files\lab_3.1.exe
Please input the number of items bought
4
Input Price:
45.6
The Total Bill is $182.4000
Process returned 0 (0x0)    execution time : 5.842 s
Press any key to continue.
```

4.



```
D:\Documents\Codeblocks\files\tab_3.1.exe
Input item name:
Candy
Please input the number of items bought
4
Input Price:
45.6
The item you bought is Candy
The Total Bill is $182.4000
Process returned 0 (0x0)    execution time : 19.179 s
Press any key to continue.
```

// This program will read in the quantity of a particular item and its price.

// It will then print out the total price.

// The input will come from the keyboard and the output will go to

// the screen.

// PLACE YOUR NAME HERE

```
#include <iostream>
```

```
#include <iomanip>
```

```
#include <string>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    int    quantity;           // contains the amount of items purchased
```

```

float itemPrice;          // contains the price of each item

float totalBill; // contains the total bill.

string name; //item name

cout<<"Input item name: "<<endl;

getline(cin,name);


cout << setprecision(4) <<fixed<< showpoint;      // formatted output

cout << "Please input the number of items bought" << endl;


// Fill in the input statement to bring in the quantity.

cin>>quantity;

// Fill in the prompt to ask for the price.

cout<< "Input Price: "<<endl;

cin>>itemPrice;

// Fill in the input statement to bring in the price of each item.

// Fill in the assignment statement to determine the total bill.

totalBill=itemPrice*quantity;

// Fill in the output statement to print total bill,

cout<<"The item you bought is "<<name<<endl;

cout<<setprecision(4)<<fixed<<showpoint<<"The Total Bill is $"<<totalBill;

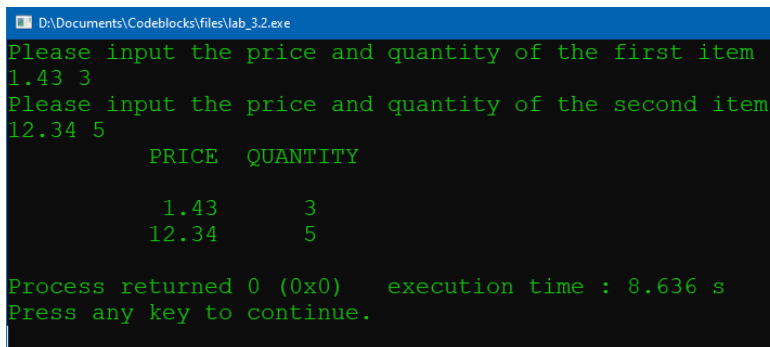
// with a label to the screen.


return 0;

```

}

### 3.2



```
D:\Documents\Codeblocks\files\lab_3.2.exe
Please input the price and quantity of the first item
1.43 3
Please input the price and quantity of the second item
12.34 5
      PRICE  QUANTITY
      1.43    3
      12.34    5
Process returned 0 (0x0)   execution time : 8.636 s
Press any key to continue.
```

1.

// This program will bring in two prices and two quantities of items

// from the keyboard and print those numbers in a formatted chart.

//PLACE YOUR NAME HERE

```
#include <iostream>
```

```
#include <iomanip>
```

```
// Fill in the code to bring in the library for
```

```
        // formatted output.
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    float price1, price2;           // The price of 2 items
```

```
    int    quantity1, quantity2;    // The quantity of 2 items
```

```
    cout << setprecision(2) << fixed << showpoint;
```

```
    cout << "Please input the price and quantity of the first item" << endl;
```

```

// Fill in the input statement that reads in price1 and
// quantity1 from the keyboard.
cin >>price1>>quantity1;

// Fill in the prompt for the second price and quantity.
cout << "Please input the price and quantity of the second item" << endl;

// Fill in the input statement that reads in price2 and
// quantity2 from the keyboard.
cin >>price2>>quantity2;

cout << setw(15) << "PRICE" << setw(12) << "QUANTITY\n\n";
cout << setw(15) << price1 << setw(7) << quantity1<<"\n";

// Fill in the output statement that prints the first price
// and quantity. Be sure to use setw() statements.
cout << setw(15) << price2 << setw(7) << quantity2<<"\n";

// Fill in the output statement that prints the second price
// and quantity.

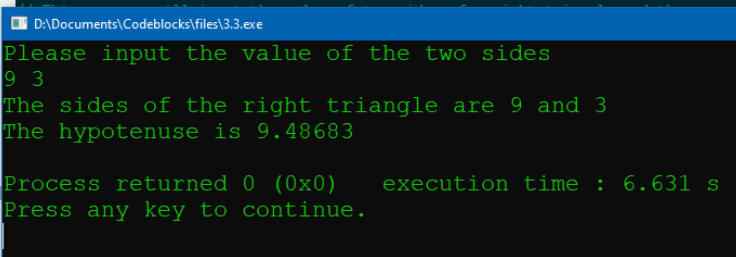
return 0;

}

```

### 3.3

1.



```

D:\Documents\Codeblocks\files\3.3.exe
Please input the value of the two sides
9 3
The sides of the right triangle are 9 and 3
The hypotenuse is 9.48683
Process returned 0 (0x0) execution time : 6.631 s
Press any key to continue.

```

```
D:\Documents\Codeblocks\files\3.3.exe
Please input the value of the two sides
9 3
The sides of the right triangle are 9 and 3
The hypotenuse is 9.49

Process returned 0 (0x0)    execution time : 1.953 s
Press any key to continue.
```

2.

// This program will input the value of two sides of a right triangle and then

// determine the size of the hypotenuse.

// PLACE YOUR NAME HERE

```
#include <iostream>
```

```
#include <cmath>    // needed for math functions like sqrt()
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    float a, b;    // the smaller two sides of the triangle
```

```
    float hyp;    // the hypotenuse calculated by the program
```

```
    cout << "Please input the value of the two sides" << endl;
```

```
    cin >> a >> b;
```

```
    // Fill in the assignment statement that determines the hypotenuse
```

```
    hyp=sqrt(pow(a,2)+pow(b,2));
```

```
    //hypot could also be used
```

```
cout << "The sides of the right triangle are " << a << " and " << b << endl;
```

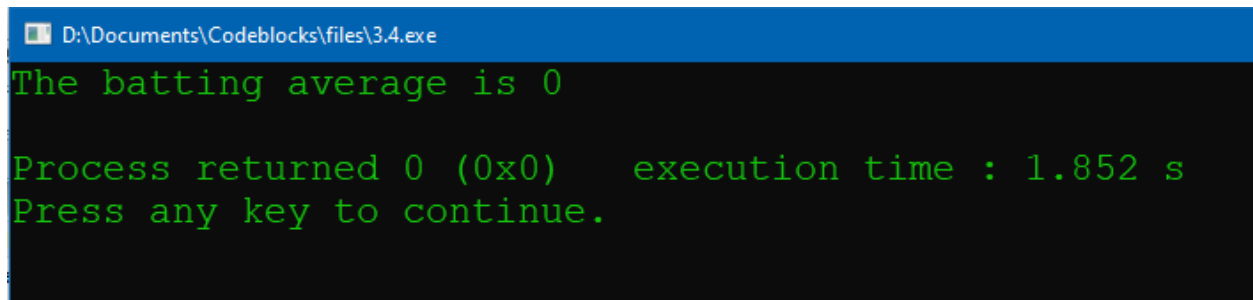
```
cout << "The hypotenuse is " << floor(hyp*100+0.5)/100 << "\n";
```

```
return 0;
```

```
}
```

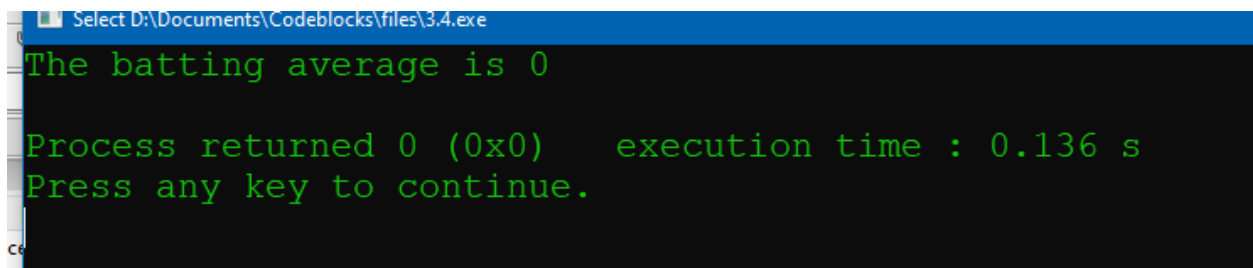
3.4

1.



```
D:\Documents\Codeblocks\files\3.4.exe
The batting average is 0
Process returned 0 (0x0) execution time : 1.852 s
Press any key to continue.
```

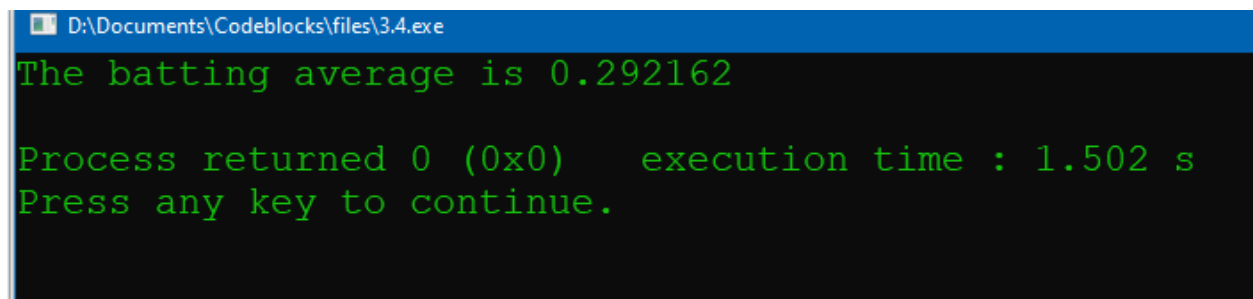
2.



```
Select D:\Documents\Codeblocks\files\3.4.exe
The batting average is 0
Process returned 0 (0x0) execution time : 0.136 s
Press any key to continue.
```

Same output

3.



```
D:\Documents\Codeblocks\files\3.4.exe
The batting average is 0.292162
Process returned 0 (0x0) execution time : 1.502 s
Press any key to continue.
```

```
// This program will determine the batting average of a player.

// The number of hits and at bats are set internally in the program.


// PLACE YOUR NAME HERE


#include <iostream>

using namespace std;


const int AT_BAT = 421;

const int HITS = 123;


int main()

{

    float batAvg;


    batAvg =(float) HITS / (float) AT_BAT ;

    // an assignment statement

    cout << "The batting average is " << batAvg << endl;    // output the result


    return 0;

}

3.5
```



```
D:\Documents\Codeblocks\files\3.5.exe
Please input the first grade
97

Please input the second grade
98.3

Please input the third grade
95

The average of the three grades is 96.77
Process returned 0 (0x0)    execution time : 7.358 s
Press any key to continue.
```

1.

```
//jeremy scheuerman
```

```
#include <iostream>
```

```
#include <iomanip>
```

```
using namespace std;
```

```
int main()
```

```
{
```

```
    float grade_1;
```

```
    float grade_2;
```

```
    float grade_3;
```

```
    float grade_avg;
```

```
//init
```

```
    cout << setprecision(2) << fixed << showpoint;
```

```
    cout << "Please input the first grade " << endl; // output the result
```

```
    cin >> grade_1;
```

```
cout << "\nPlease input the second grade " << endl;    // output the result
cin >> grade_2;

cout << "\nPlease input the third grade " << endl;      // output the result
cin >> grade_3;

grade_avg = (grade_1 + grade_2 + grade_3) / 3;

cout << "\nThe average of the three grades is " << setprecision(2) << grade_avg;

return 0;
}
```