Problem 1. How Many Widgets?

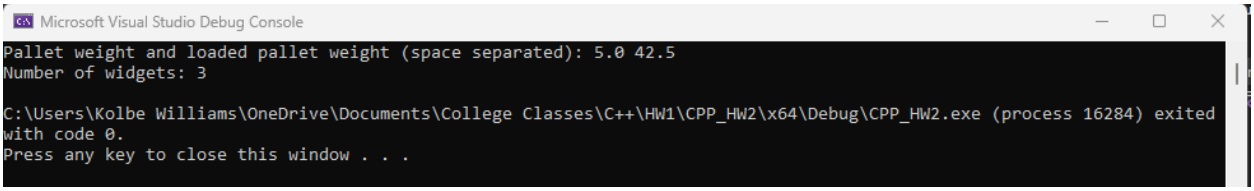
The Yukon Widget Company manufactures widgets that weigh 12.5 pounds each. Write a program that calculates how many widgets are stacked on a pallet, based on the total weight of the pallet. The program should ask the user how much the pallet weighs by itself and with the widgets stacked on it. It should then calculate and display the number of widgets stacked on the pallet.

Code:

```
//DO NOT MODIFY THIS SECTION
#include <iostream>
#include <iomanip>
using namespace std;
int main()
{
    const float widgetWeight = 12.5f;
    float palletWeight, loadedPalletWeight;
    int nWidgets;
    cout << "Pallet weight and loaded pallet weight (space separated): ";
    //ADD YOUR CODE FROM HERE
    cin >> palletWeight;
    cin >> loadedPalletWeight;
    nWidgets = (loadedPalletWeight - palletWeight) / widgetWeight;

    cout << "Number of widgets: " << nWidgets << endl;
}
```

Output:



Problem 2. Interest Earned

Assuming there are no deposits other than the original investment, the balance in a savings account after one year may be calculated as

Amount = Principal * (1 + Rate/T)^T

Principal is the balance in the savings account, Rate is the interest rate, and T is the number of times the interest is compounded during a year (T is 4 if the interest is compounded quarterly).

Write a program that asks for the principal, the interest rate, and the number of times the interest is compounded. It should display a report similar to:

```
Interest Rate:               4.25%
Times Compounded:              12
Principal:              $ 1000.00
Interest:               $   43.34
Amount in Savings:      $ 1043.34
```

Code:

```
//DO NOT MODIFY THIS SECTION
#include <iostream>
#include <iomanip>
#include <math.h>
using namespace std;
int main()
{
    float principal, interestRate;
    float amount;
    int times;
    cout << "Enter principal:        ";
    cin >> principal;
    cout << "Enter interest rate %:  ";
    cin >> interestRate;
    cout << "Enter times compounded: ";
    cin >> times;
    //ADD YOUR CODE FROM HERE
    float amountBase = (1 + ((interestRate / 100) / times));
    amount = principal * pow(amountBase, times);
    float intrest = amount - principal;

    cout << fixed << setprecision(2) << endl;
    cout << "Interest Rate:      " << setw(8) << interestRate << "%" << endl;
    cout << "Times Compounded:   " << setw(8) << times << endl;
    cout << "Principal:         $" << setw(8) << principal << endl;
    cout << "Interest:          $" << setw(8) << intrest << endl;
    cout << "Amount in Savings: $" << setw(8) << amount << endl;
}
```

Output: