Assignment 2

1. bill.cpp -- 10 pts.
2. tabledata.cpp -- 10 pts.
3. **Interest Earned** Problem -- 30 pts.
4. **Math Tutor** problem. -- 40 pts.
5. billfile.cpp (data: transaction.txt) -- 30 pts.

TOTAL : 120 pts.

Part1

bill.cpp file: working with stream manipulators, formatting output.

tabledata.cpp file: formatting output

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

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

Principal is the balance in the savings account, *Rate* is the interest rate (in decimal form – 0.0425 for 4.25%), 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. Use output formatting to make your output look very similar to the one you see below.

Interest rate:	4.25%
Times compounded:	12
Principal:	$ 1000.00
Interest:	$ 43.34
Amount in Savings:	$ 1043.34

Part 2

billfile.cpp, data- transaction.txt : Reading/writing from/to the files.
Please make sure you use if-else statement to check that input file transaction.txt was successfully opened before you read from it. Inform the user in case the file failed to open.

Math Tutor

Write a program that can be used as a math tutor for a young student. The program should display two random numbers to be added, such as:

```
  247
+ 129          ← Make sure you format the output this way.
-------
```

The range of the random numbers should be 0 – 999. There should be no more than 3 digits in the number.
The program should wait for the student to enter the answer. If the answer is correct, the message with congratulations should be printed. If the answer is incorrect, a message should be printed showing the correct answer in the following format:

```
  247
+ 129
-------
  376
```

Format your output so it will look similar to the one you see above.