Week 2 - In-Class Programs - Tuesday

math matters & type-casting

1. Write a program that computes the length of the hypoteneuse of a right triangle. The user should enter the lengths of the two perpendicular sides. Output will show the length of the hypoteneuse. You MUST use *two* functions from the <cmath> library in your answer.

SAMPLE RUN:

```
Enter the length of one of the perpendicular sides of a right triangle:
5
Now, enter the other side:
5
The hypoteneuse is 7.07107


Process returned 0 (0x0)   execution time : 5.795 s
Press any key to continue.
```

Remember: ONLY ONE PERSON SHOULD BE CODING AT A TIME!!!! NO EXCEPTIONS!!!!

2. Write a program to compute the amount of money to be paid at a restaurant for a wonderful meal. The user will input the amount of the bill (including any tax) and the amount (as a percentage) that should be paid in tip. For example, if the tip were to be 15%, the user would type in .15. The total bill will be computed (original bill + tip), then rounded up to the nearest dollar. At the end of the program, the original billed amount, the amount of the tip (not a percentage... the actual dollars & cents amount), and the final amount paid on the bill.

   BE SURE you do the input, the calculation for tip, the summing of the total bill, and the rounding up of the total AS SEPARATE, SEQUENTIAL OPERATIONS. Hint: You will need variables for the amount of the bill, the tip percentage, the tip amount to be paid, the total bill, and the rounded total bill.

```
How much was the bill?
24.55
How much tip do you want to leave?
  (Enter as a floating point number - .2 = 20%
.18
Meal:   24.55
Tip:    4.419
TOTAL (rounded up):     $ 29


Process returned 0 (0x0)   execution time : 7.061 s
Press any key to continue.
```