Spring 2014 Section 4 COP 3223 Program #2 Grading Criteria

Part A: Winnings (30 pts)

Coding Style Points (6 pts)
Written in a separate file - 1 pt
Uses main function - 1 pt
Header comment - 1 pt
Internal comments - 1 pt
Declare constants (either beginning of main or before main) - 1 pt
Good variable names - 1 pt

Code Points (12 pts)
Reads in integer input (4 pts)
Has if statement (4 pts)
Prints Output (4 pts)

Test Cases (10 pts)
2 pts per case: Try inputs 1, 3, 4, 5 and 6. The answers are 0, 5, 49.50, 4189, 3000000. Note that it's not necessary to output to two decimal places. If they say "You don't win anything" for input 1, take off the 2 points since they didn't follow the spec.

Part B: Probability of Winning (40 pts)

Coding Style Points (6 pts)
Written in a separate file - 1 pt
Uses main function - 1 pt
Header comment - 1 pt
Internal comments - 1 pt
Declare constants (either beginning of main or before main) - 1 pt
Good variable names - 1 pt

Code Points (13 pts)
Reads in integer input (3 pts)
Imports Math (2 pts)
Calls factorial (2 pts)
Has a formula for a combination somewhere (4 pts)
Outputs a result (2 pts)

Test Cases (21 pts)
3 pts per test case – try each input. Match answers to solution.

Part C: Lottery Simulation (30 pts)

Coding Style Points (6 pts)
Written in a separate file - 1 pt
Uses main function - 1 pt
Header comment - 1 pt
Internal comments - 1 pt
Declare constants (either beginning of main or before main) - 1 pt
Good variable names - 1 pt

Code Points (14 pts)
Leaves my two functions untouched and includes them (4 pts)
Has a loop in main (4 pts)
Has an if statement inside the loop (2 pts)
Has an accumulator variable (4 pts)

Test Cases (10 pts)
Correctly generates multiple tickets and stores how many matches there were (4 pts)
Correctly accumulates winnings (3 pts)
Correctly outputs result based on whether you're up or down (3 pts)

Note – you have to look at the code to see if these things are done correctly. Run the program by buying a million tickets. Usually, you should lose about 800,000 but there can be significant variation…