Practice Exercise #29: Surface Area and Volume

http://www.comp.nus.edu.sg/~cs1010/4_misc/practice.html

Reference: Week 8

Date of release: 6 October 2014

Objective: Function with pointer parameters

Task statement:

Given 3 positive integers *a*, *b*, *c* representing the length, width and height of a box, write a function **area_and_volume()** to compute the surface area and volume of the box.

Write a program **box.c** to read 2 positive integers *lower* and *upper*, where *lower* < *upper*. You need not check input validity.

Your program is to count how many boxes with length, width, and height in the range [*lower*, *upper*] such that the surface area is larger than or equal to the volume.

For instance, suppose *lower* = 5 and *upper* = 7. There are 6 boxes whose surface area is larger than or equal to volume:

5×5×5, 5×5×6, 5×5×7, 5×6×6, 5×6×7, and 6×6×6

Note that the boxes 5×6×7, 5×7×6, 6×5×7, 6×7×5, 7×5×6 and 7×6×5 are considered to be the same box.

Sample runs:

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Enter upper and lower limits: 5 7
Answer = 6

Enter upper and lower limits: 4 8
Answer = 22
```