Assignment 5

due Friday, March 6, 2020

You are to write code implementing the problem 10 from chap 11 of *Erickson*, slightly modified along the lines of the *Luk's Contest* problem (available on class site).

Suppose we are given a set of boxes, each specified by their height, width, and depth in inches. All three side lengths of every box lie strictly between 1 inch and 36 inches. As you should expect, one box can be placed inside another if the first box can be rotated so that its height, width, and depth are respectively at least one inch smaller smaller than the height, width, and depth of the second box. Boxes can be nested recursively. Call a box visible if it is not inside another box. Write code that will determine the smallest number of visible boxes.

Your code should use *standard input/output*. A test file will start with an integer n ($1 \leq n \leq 50$), being the number of boxes. After that will follow n lines of the form $l\ w\ h$ ($1 \leq l, w, h \leq 36$), where the three integers give the length, width, and height of that box.

Sample Input 1:

```
4
2 1 3
4 3 5
2 3 4
4 5 6
```

Sample Input 2:

```
5
5 5 5
4 4 5
4 5 5
2 3 3
5 6 6
```

The test files will end with a single blank line. The output for sample 1 should be 1 and for sample 2 it should be 3.

Erickson chapter 11:
http://jeffe.cs.illinois.edu/teaching/algorithms/book/11-maxflowapps.pdf

Luks Contest problem:
https://classes.cs.uoregon.edu/20W/cis413/asst5/bargainBoxing.pdf