

## Cockeyed Boxes

Computer Science Society  
Programming Contest  
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Given a bunch of boxes without tops, you can imagine trying to nest them one inside another, subject to the constraint that the rectangular base of one fit properly within the rectangular base of any other that contains it. If you're trying to save space, you usually try to nest as many as possible, leaving as little space between the sides of successive boxes as possible. In this problem, we take a *cockeyed approach* to box nesting in which a box can only be nested inside another if the longer base dimension of the inner box is properly less than the smaller base dimension of the outer box. Yes, I know you can't nest as many boxes that way, but it's still a challenge to see how many can be nested despite the cockeyed approach.

### Input Format

The first input line contains the number  $n > 0$  of boxes. The following  $n$  lines each describe a box, consisting of a distinct name, an integer base length  $l > 0$  and an integer base width  $w > 0$  separated by blanks. The remaining input lines each contain a pair of box names separated by blanks.

### Output Format

For each pair of box names in the last part of the input, compute and output the maximum number of boxes that can be nested using the cockeyed approach, with the first as the outermost box and the second as the innermost box. If the second box cannot be nested inside the first box, then the answer should be zero.

### Input Sample

```
5
a 4 4
b 8 7
c 6 5
d 4 3
e 2 1
a a
a b
a c
a d
a e
b a
b d
b e
c b
d a
d c
d e
e d
```

### Output Sample

```
most nested with outermost a and innermost a: 1
most nested with outermost a and innermost b: 0
most nested with outermost a and innermost c: 0
most nested with outermost a and innermost d: 0
most nested with outermost a and innermost e: 2
most nested with outermost b and innermost a: 3
most nested with outermost b and innermost d: 3
most nested with outermost b and innermost e: 4
most nested with outermost c and innermost b: 0
most nested with outermost d and innermost a: 0
most nested with outermost d and innermost c: 0
most nested with outermost d and innermost e: 2
most nested with outermost e and innermost d: 0
```