# 12061   Overlaying Maps

In the picture below you can see two rectangles **ABCD** and $A_1B_1C_1D_1$. They are two rectangular maps of the same rectangular region. The size of the two maps is different but their aspect ratio is the same. This means $AB/A_1B_1 = AD/A_1D_1$.

Mathematicians say that there is always a geographical location on the bigger map such that the same location on the smaller map lies just straight above. So you can mark this location with one needle on both the maps at the same time. In the figure on the left, point **E** is such a point. Given the orientation of the two maps of the same rectangular area your job is to find this special point. You can assume that the bigger map is **ABCD** and the smaller map is $A_1B_1C_1D_1$. You can also assume that point **A** is always at the origin, and one side of the bigger map is always in parallel with the x-axis. So obviously the other side is always in parallel with the y-axis.
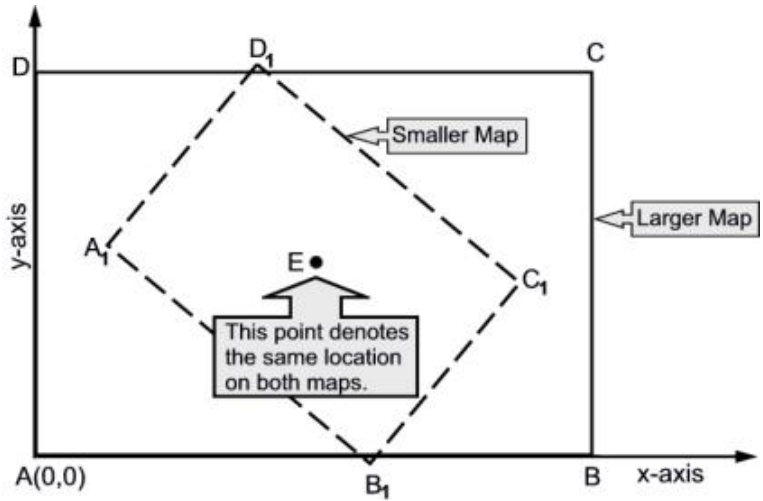
Input

On the first line there will be T $(1 \leq T \leq 500)$, the number of test cases. Each case is represented by five lines. First of them will contain the coordinates of point **C**. The next four lines will contain coordinates of points A_1, B_1, C_1 and D_1 respectively. You can assume that $(10 \leq AB, AC \leq 100)$ and $0.1 \leq (A_1B_1/AB) \leq 0.9$

Output

For each test case you must produce one line of output: the coordinates of the desired point rounded to four digits after the decimal point. You can always assume that there will be one such point.

Sample Input

```
2
8.0000000000  6.0000000000
2.0000000000  1.0000000000
6.0000000000  1.0000000000
6.0000000000  4.0000000000
2.0000000000  4.0000000000
34.0000000000000000  49.0000000000000000
18.2078241256558856  32.1681558770129171
22.7579122488961215  27.1147710637666363
30.0407315385745850  33.6722510060834468
25.4906434153343492  38.7256358193297276
```

Saple Output

```
4.0000 2.0000
26.6101 32.5721
```