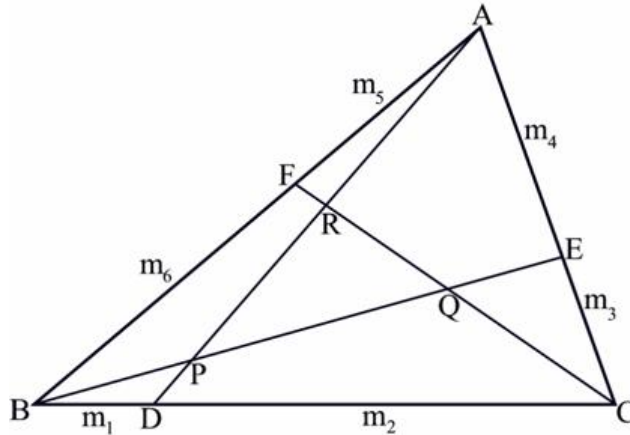


In the picture below you can see a triangle ABC. Point D, E and F divides the sides BC, CA and AB into $m_1:m_2$, $m_3:m_4$ and $m_5:m_6$ ratios respectively. A, D; B, E and C, F are connected. AD and BE intersect at P, BE and CF intersect at Q and CF and AD intersect at R.



So now a new triangle PQR is formed. Given triangle ABC it is very easy to find triangle PQR, but given triangle PQR it is not straight forward to find ABC. Your task is now to do that.

Input

First line of the input file contains an integer N ($0 < N < 25001$) which denotes how many sets of inputs are there. Input for each set contains six floating-point number $P_x, P_y, Q_x, Q_y, R_x, R_y$. ($0 \leq P_x, P_y, Q_x, Q_y, R_x, R_y \leq 10000$) in one line and six positive integers $m_1, m_2, m_3, m_4, m_5, m_6$ ($m_1 < m_2, m_3 < m_4$ and $m_5 < m_6$) in another line. These six numbers denote that the coordinate of points P, Q and R are $(P_x, P_y), (Q_x, Q_y)$ and (R_x, R_y) respectively. P, Q and R will never be collinear and will be distinct and there will always be a triangle ABC for the given input triangle PQR. Also note that P, Q and R will be given in counter clockwise order in the input.

Output

For each line of input produce one line of output. This line contains six floating-point numbers. These six integers denote the coordinates of A, B and C. That is the first two integers denote the coordinate of A, the third and fourth integers denote the coordinate of B and fifth and sixth integers denotes the coordinate of C. A, B and C will appear counter clockwise order. All the output numbers should have eight digits after the decimal point.

Sample Input

```
3
4467.61586728 8492.59551366 7060.96479020 6775.46633005 6725.89311907 9028.87449315
11 56 38 97 49 60
5779.32806104 1918.19337634 7490.69623286 4845.34535926 6419.53729066 4864.56878239
18 80 56 87 58 59
8991.93033007 6724.32910758 7219.48100000 7527.95330769 8549.92222645 3068.19948096
13 86 11 44 20 35
```

Sample Output

```
9231.81800000 9623.96300000 3537.20000000 9108.65000000 7337.89000000 4913.10199999
7424.76700001 9490.84399999 4757.24799999 170.01100001 9262.77299999 4813.54299999
8242.99300000 529.39300000 9373.35300000 6551.39300000 6655.90700000 9417.10200000
```