Problem K. Sticks

Input file:	*standard input*
Output file:	*standard output*
Time limit:	3 seconds
Memory limit:	256 mebibytes

Bob has 12 sticks of lengths $l_1, l_2, \ldots, l_{12}$. He wants to use some sticks to form triangles as many as possible. Each triangle can be built by three different sticks l_a, l_b, l_c such that $l_a + l_b > l_c$, $l_a + l_c > l_b$ and $l_b + l_c > l_a$. If each stick can be used for at most one triangle, how many triangles can he build at most? Also, could you please find a way to build them all?

Input

The input contains several test cases. The first line contains an integer T indicating the number of test cases. The following describes all test cases. For each test case:

The only line contains twelve integers $l_1, l_2, \ldots, l_{12}$.

- $1 \le T \le 6000$
- $1 \le l_1, l_2, \ldots, l_{12} \le 10^9$

Output

For each test case, firstly output a line containing "`Case #x: m`" (without quotes), where `x` is the test case number starting from 1, and `m` is the maximum number of triangles that can be built.

Then, output `m` lines, each line of which contains three integers, representing three side lengths of a triangle.

If there are many optimal solutions, please output any of them. Note that every stick for each test case can be used at most once, and every two adjacent integers in a line of the output should be separated by one space.

Example

standard input	standard output
5 1 2 1 3 1 4 1 5 1 6 1 7 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 5 8 13 21 34 55 89 144 233 2 3 6 15 27 59 72 83 121 159 201 234 2 2 4 8 16 32 64 128 256 512 1024 1281	Case #1: 4 1 1 1 4 3 2 1 1 1 6 7 5 Case #2: 3 6 5 4 10 12 11 9 8 7 Case #3: 0 Case #4: 2 83 121 72 234 159 201 Case #5: 1 1024 1281 512