BUILDING BLOCKS

Harry was playing a video game in which he had to build a building of maximum possible height using several rectangular blocks of given dimensions. He may only place a block on another if its base fits within the lower block's base with the edges parallel. **For ex-** He could place a block with a base of 2x3 on the top of a block with a base 5x3, but not on the top of a block with a base 6x1.Blocks may be rotated by any multiple of 90 degrees about any axis. Each block may only be used once.

But, he is not so extraordinarily smart that he could compute the optimal way to play the game. Help Harry to make the building as tall as possible.

INPUT:

Input begins with an integer N (N<100), the no. of building blocks available. N lines follow, each containing 3 integers that give the dimensions of a block. All dimensions are chosen uniformly between 1 and 100.

OUTPUT:

First output an integer P, indicating the number of blocks you wish to use from the available blocks. Follow with P lines, each containing the dimensions of a block, with the height of the block listed first (the order of the other 2 dimensions does not matter). Output the blocks in order from the top of the building to bottom of the building. Lastly, output an integer M, indicating the maximum height achieved.

SAMPLE INPUT:

```
10

7  2  10
8  8  8
7  1  1
2  7  9
6  8  1
6  6  5
3  2  5
10  3  9
10  10  8
4  4  1
```

SAMPLE OUTPUT:

```
5
4  1  4
1  1  7
10  2  7
2  7  9
8  10  10
25
```

SAMPLE INPUT:

3

2 2 10

5 7 6

3 5 6

SAMPLE OUTPUT:

3

10 2 2

6 3 5

7 5 6

23