FedEx Packing Problem

You are given a number of boxes, associated with length, width, height, value and deadline to be packed. You are going to write a program to pack these boxed into two containers with length, width, height and deadline given. An example of the input is as follows

```
1 20 20 100 10  /* id, length, width, height, and deadline of container*/
2 10 10 50 20  /* id, length, width, height, and deadline of container */
1 20 20 50 10 100 /*id, length, width, height, deadline, and value of box*/
2 20 20 50 10 100 /*id, length, width, height, deadline, and value of box */
3 10 10 10 10 50 /*id, length, width, height, deadline, and value of box */
4 10 10 20 20 50 /*id, length, width, height, deadline, and value of box */
5 10 10 20 20 50 /*id, length, width, height, deadline, and value of box */
6 10 10 20 20 40 /*id, length, width, height, deadline, and value of box */
```

The output of your packing program should indicate which container and where in the container to pack each box. For example, the optimal solution for above example should be as follows:

```
1 1 10 10 25 20 20 50 100
2 1 10 10 75 20 20 50 100
3 2 5 5 5 10 10 20 50
4 2 5 5 20 10 10 20 50
5 2 10 10 40 10 10 20 50
```

Each line indicates the box id, the container id, the position to put container in the box, the length, width, height of the box and the value of the box. The position is represented by the x, y, z coordinate of the center of the box. Here, we assume that the left, front, bottom corner of the container has a x, y, z coordinate of (0, 0, 0) and the right, back, top corner of the container has a x, y, z coordinate of length, width, height of the container, respectively. You need to indicate the length, width and height of the box because the box may be rotated. In this problem, we assume that box can float in the container (no need to contact with other boxes to hold the position) but can not overlap with each other.

A more complex example is given below and you can share with each other on the results to find out the quality of your program compare to others. However, the final grade will be based on the quality on this test case and another ”secret” test case which may be much bigger.

```
1 8 8 8 10
2 9 9 9 20
1 2 2 2 10 10
2 2 2 2 10 10
```

3 2 2 2 10 20

4 2 2 2 10 20

5 3 3 3 10 50

6 3 3 3 10 50

7 3 3 3 20 50

8 3 3 3 20 50

9 4 4 4 10 150

10 4 4 4 10 150

11 4 4 4 20 150

12 4 4 4 20 150

13 5 5 5 10 250

14 5 5 5 10 250

15 5 5 5 20 250

16 5 5 5 20 250

17 6 6 6 10 500

18 6 6 6 10 500

19 6 6 6 20 500

20 6 6 6 20 500