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ICPC亚洲区域赛银川赛站网络预选赛

C. Go To Work

Time Limit: 1 s

Memory Limit: 32 MB

 [统计 \(/contest/1/problem/3/statistics\)](/contest/1/problem/3/statistics) 描述 提交[返回比赛 \(/contest/1\)](/contest/1)

Description

Now a company has two positions (assumed to be a, b), each of which requires 8 people to be employed. One person can only work in one position. Each person has a competency value for both a and b positions, recorded as a_i , b_i , now assume that there are n people, asking you to choose 8 people for each of the two positions, so that the sum of the competency values of all positions is the largest.

Input

There are multiple sets of data, please use multiple sets of input.

The first line of each group is an integer $16 \leq n \leq 200$, and $n=0$ ends. Indicates that there are n people.

Then there are n lines, the i-th line is the competency value of the i-th person, each line has 2 integers $0 < a_i, b_i \leq 100$; a_i is the competency value of the i-th person to the position a, and b_i is the competency value of the i-th person to the position b.

Output

Each group outputs 17 lines, the first line is the maximum value of the sum of the competencies, followed by the number of the selected person, the competency value a_i , the competency value b_i , the post d, d=1 means work in a position, d=2 means work in a position.

Examples

input :

100
68 35
1 70
25 79
59 63
65 6
46 82
28 62
92 96
43 28
37 92
5 3
54 93
83 22
17 19
96 48
27 72
39 70
13 68
100 36
95 4
12 23
34 74
65 42
12 54
69 48
45 63
58 38
60 24
42 30
79 17
36 91
43 89
7 41
43 65
49 47
6 91
30 71
51 7
2 94
49 30
24 85
55 57
41 67
77 32
9 45
40 27
24 38
39 19
83 30
42 34
16 40
59 5
31 78
7 74
87 22
46 25

73	71
30	78
74	98
13	87
91	62
37	56
68	56
75	32
53	51
51	42
25	67
31	8
92	8
38	58
88	54
84	46
10	10
59	22
89	23
47	7
31	14
69	1
92	63
56	11
60	25
38	49
84	96
42	3
51	92
37	75
21	97
22	49
100	69
85	82
35	54
100	19
39	1
89	28
68	29
94	49
84	8
22	11
18	14
15	10
0	

output :

1527
8 92 96 2
10 37 92 2
12 54 93 2
15 96 48 1
19 100 36 1
20 95 4 1
39 2 94 2
59 74 98 2
69 92 8 1
79 92 63 1
83 84 96 2
85 51 92 2
87 21 97 2
89 100 69 1
92 100 19 1
96 94 49 1



(<http://112.126.101.92/contest/1/problem/3?locale=zh-cn>)



(<http://112.126.101.92/contest/1/problem/3?locale=en>)

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