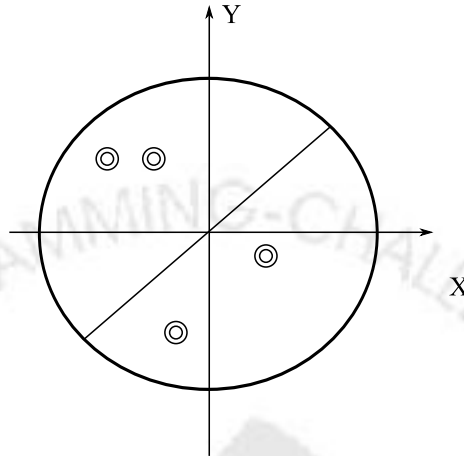


## 111305 Birthday Cake

Lucy and Lily are twins. Today is their birthday, so Mother buys them a birthday cake. There are  $2N$  cherries on the cake, where  $1 \leq N \leq 50$ . Mother wants to cut the cake into two halves with a single straight-line cut through the center so each twin gets both the same amount of cake *and* the same number of cherries. Can you help her?



The cake has a radius of 100 and its center is located at  $(0, 0)$ . The coordinates of each cherry are given by two integers  $(x, y)$ . You must give the line in the form  $Ax + By = 0$ , where both  $A$  and  $B$  are integers in  $[-500, 500]$ . Cherries are not allowed to lie on the cutline. There is at least one solution for each data set.

### Input

The input file contains several test cases. The first line of each case contains the integer  $N$ . This is followed by  $2N$  lines, where each line contains the  $(x, y)$  location of a cherry with one space between them. The input is ends with  $N = 0$ .

### Output

For each test case, print a line containing  $A$  and  $B$  with a space between them. If there are many solutions, any one will suffice.

### Sample Input

```
2
-20 20
-30 20
-10 -50
10 -5
0
```

### Sample Output

```
0 1
```