Some people think that the bigger an elephant is, the smarter it is. To disprove this, you want to take the data on a collection of elephants and put as large a subset of this data as possible into a sequence so that the weights are increasing, but the IQ's are decreasing.

Input

The input will consist of data for a bunch of elephants, one elephant per line, terminated by the end-of-file. The data for a particular elephant will consist of a pair of integers: the first representing its size in kilograms and the second representing its IQ in hundredths of IQ points. Both integers are between 1 and 10000. The data will contain information for at most 1000 elephants. Two elephants may have the same weight, the same IQ, or even the same weight and IQ.

Output* (observe a nota no final da página)

Say that the numbers on the i-th data line are $W[i]$ and $S[i]$. Your program should output a sequence of lines of data; the first line should contain a number n; the remaining n lines should each contain a single positive integer (each one representing an elephant). If these n integers are $a[1]$, $a[2]$,..., $a[n]$ then it must be the case that

$$W[a[1]] < W[a[2]] < ... < W[a[n]]$$

and

$$S[a[1]] > S[a[2]] > ... > S[a[n]]$$

In order for the answer to be correct, n should be as large as possible. All inequalities are strict: weights must be strictly increasing, and IQs must be strictly decreasing.

There may be many correct outputs for a given input, your program only needs to find one.

Sample Input

```
6008 1300
6000 2100
500 2000
1000 4000
1100 3000
6000 2000
8000 1400
6000 1200
2000 1900
```

Sample Output

```
4
4
5
9
7
```

***NOTA IMPORTANTE**

Para facilitar a correção pelo run.codes, você só precisa imprimir a primeira linha (n) No caso de exemplo desse pdf, só seria necessário imprimir o valor 4 na tela, dispensando as 4 linhas seguintes.