The basis of Justin's Doctoral dissertation for his PhD in meteorology is his theory that beavers can solve the global warming problem. He has observed that in many years when the beaver population was high, the amount of CO_2 in the air was low. Having collected data sets from all over the world, he would like to automate his analysis. Each data set consists of many data points with each data point, e.g. (200 76), being a yearly beaver population followed by a measured CO_2 level. The Supportive Subsets of a data set are the subsets of the data set that contain the largest number of yearly data points in which the beaver population continually increases while the CO_2 level continuously decreases.

For example, the data set (15 50) (22 40) (75 88) (28 65) (12 30) (20 10) yields three Supportive Subsets each containing two data points: (15 50) (22 40), and (15 50) (20 10), and (12 30) (20 10). The first Supportive Subset is of "particular interest" to Justin because the beaver count of its first and last data point is equal to or higher than the first and last beaver count of any of the other Supportive Subsets. Your task is to determine the number of data points in the Supportive Subsets, the number of *different* data points that begin the Supportive Subsets and the data points that make up the subset of "particular interest".

Inputs
The first line of input will contain the number of data sets to consider. This will be followed by one group of inputs per data set, the first line of which will contain the number of data points in the data set. This will be followed by one line of input per data point containing the yearly beaver count followed by that year's CO_2 level. No two data points in a data set will contain the same number of beavers.

Outputs
For each data set there will be two lines of output. The first line will contain two integers which will be the number of data points in the Supportive Subsets, nMax, followed by the number of *different* data points that begin the Supportive Subsets. The second line will contain the nMax data points that make up the Supportive Subset of particular interest which begins *and* ends with the *highest* number of beavers arranged in ascending order based on the number of beavers. All outputs on a line should be separated by a space.

Sample inputs	Sample inputs continued
3	5800 2175
6	500 2050
15 50	1000 4000
22 40	1100 4010
75 88	6000 2000
28 65	8000 1400
12 30	5600 2150
20 10	2000 1900
3	
200 20	**Sample outputs**
100 10	2 2
300 30	15 50 22 40
10	1 3
750 2025	300 30
6008 1300	4 3
	1100 4010 5800 2175 6000 2000 8000 1400