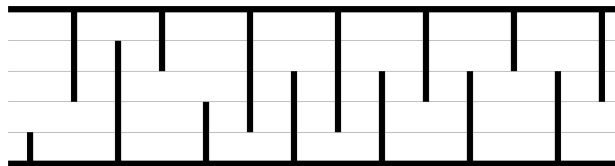


Firefly

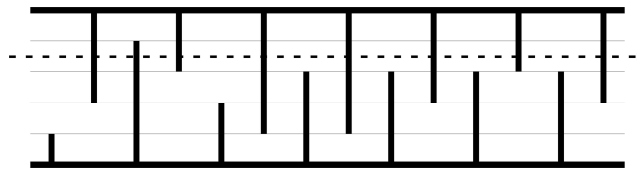
A firefly has flown into a cave full of obstacles: stalagmites (rising from the floor) and stalactites (hanging from the ceiling). The cave is N units long (where N is even) and H units high. The first obstacle is a stalagmite after which stalactites and stalagmites alternate.

Here is an example cave 14 units long and 5 units high (the image corresponds to the second example):



The firefly is not the type that would fly around the obstacle, instead it will choose a single height and ram from one end of the cave to the other destroying all obstacles in its path with its mighty moves.

In the previous example, choosing the 4th level from the ground has the firefly destroying eight obstacles:



This is not the best choice because the firefly will end up less tired if it chooses either level one or five, as that would require destroying only seven obstacles.

You are given the width and length of the cave and the sizes of all obstacles.

Write a program that determines the **minimum number** of obstacles the firefly needs to destroy to reach the end of the cave, and on how many distinct levels it can achieve that number.

Input

Your problem is to read the input from standard input. The input consists of T test cases. The number of test cases T is given in the first line of the input. Each test case starts with two integers N and H , $2 \leq N \leq 200,000$, $2 \leq H \leq 500,000$, the length and height of the cave. N will always be even. Following N lines contain the sizes of the obstacles, one per line. All sizes are positive integers less than H .

Output

Print your solution to standard output. You must output two integers separated by a single

space per each test cases. The first number is the minimum number of obstacles the firefly has to destroy and the second is the number of levels on which that can be achieved.

Sample Input	Sample Output
2	2 3
6 7	7 2
1	
5	
3	
3	
5	
1	
14 5	
1	
3	
4	
2	
2	
4	
3	
4	
3	
3	
3	
2	
3	
3	