Problem A: It's a Jungle Out There

Time limit: 5 seconds

As more and more highways are cutting trough the wild forests and habitats of snakes, jungles have really become "a jungle out there".

A family of snakes has decided to cross one of these infernal roads. The road is a straight East–West band of width w, and it is a one-way road: cars travel from East to West. The family plans to leave its burrow on the South side and relocate to a nice and bushy tree right across the road on the North side, exactly on the other side of the road. The plan of the family is to cross the road perpendicularly, going from their burrow to the tree. As the snakes are diurnal, they can only travel during daylight, so their head must start to cross the road not earlier than t_1 and their tail must reach the other side of the road not later than t_2 ($t_2 > t_1$). All the snakes are moving at the same constant speed on the same line (they are so thin that they can be superimposed). Yet, due to different ages and maturity, not all of the snakes have the same length.

Cars are driving on the road at a constant speed of 1 meter per second and on a trajectory perfectly parallel to the road. Their width is exactly the same as the width of the road, and their length is so small that they can be considered as a simple line. The cars are a lethal hazard to the snakes: at the instant where a car passes over the crossing path, then the car kills any snake which is currently crossing the road.

Now, thanks to their capacity of sensing vibrations on the ground, the snake family knows the exact position, at time $t = 0$, of each car that will pass on the road today; and based on this, they can decide when they want to cross.

Your goal is to determine how many members of the family are able to make it to the other side of the road without being killed.

Example

The first test case of the sample input is illustrated in Figure 1, with cars being numbered according to their order in the input. The snake with length 1 can cross between cars 2 and 3, but the snake with length 5 has no opportunity between t_1 and t_2 to cross safely.

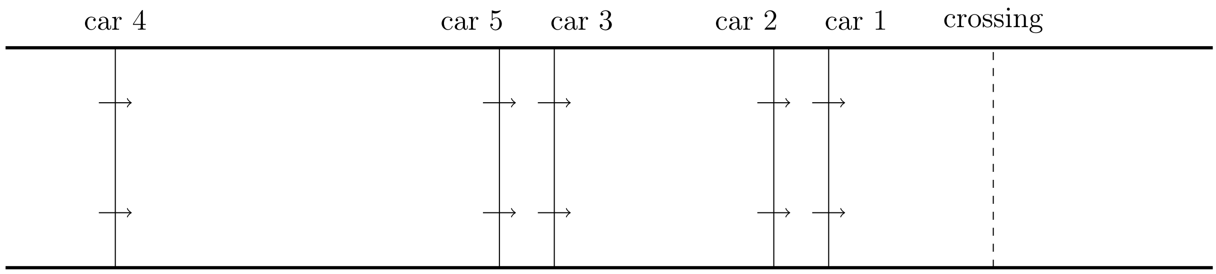

Figure 1: Roads and cars in the first test case of the sample input

Input

The input file consists of multiple test cases. The first line of the input file consists of a single integer indicating the number of test cases. Each test case follows. The first line of a test case consists of six integers s, c, w, u, t_1, and t_2, each separated by a single space:

- $1 \leq s \leq 100\,000$ is the number of snakes;
- $1 \leq c \leq 100\,000$ is the number of cars;
- $1 \leq w \leq 100\,000$ is the width of the road (in meters);
- $1 \leq u \leq 100\,000$ is the speed of the snakes (in meters per second);
- $0 \leq t_1 \leq 1\,000\,000\,000$ is the earliest possible departure time of a snake (in seconds);
- $0 \leq t_2 \leq 1\,000\,000\,000$ is the latest possible arrival time of a snake (in seconds), with $t_1 < t_2$.

The next s lines of the test case each consist of a single integer $1 \leq l_i \leq 1\,000\,000\,000$ for $1 \leq i \leq s$ indicating the length (in meters) of the i-th snake: note that multiple snakes may have the same length. Last, the next c lines of the test case each consist of a single integer $0 \leq x_j \leq 1\,000\,000\,000$ for $1 \leq j \leq c$ indicating the distance at time $t = 0$ (in meters) between the initial position of the car and the crossing path of the snakes: all cars start at the East of that crossing path, and you may assume that each car has a different starting position.

Output

For each test case in the input, your program should produce one line consisting of one integer that indicates how many of the snakes can make it to the other side. There should be no blank lines in your output.

Sample Input

```
2
2 5 4 2 3 9
1
5
3
4
8
16
9
4 2 10 5 2 5
2
5
8
10
8
3
```

Sample Output

```
1
0
```