

RPLN - Negative Score

<https://www.spoj.com/problems/RPLN/>

Orianna is a great swimmer and she's going to a swimming competition this month and needs your help as she is highly paranoid about the results of the competition.

The competition consists in some sort of evaluations, every judge makes a score and, based on that score and the score of other contestants she will get a score belonging to her results, those scores are final, meaning that will not change in the competition.

Orianna requires this solution with urgency, she is getting evaluated on a lot of ways and she is very worried about her results, so she wants to know what is the worst score from an evaluation A to other evaluation B inclusive.

Input

The first line of the test data will start with an integer T representing the T test cases, then, T cases will follow, each of the cases starts with two integers N and Q, denoting the number of evaluations Orianna had, then, N integers will follow denoting the score on each evaluation, after that, Q queries will begin, each query consist on two integers A and B.

Output

You must output the string "Scenario #i:", a blank line and then the result of each query, remember, Orianna is interested on the worst score from evaluation A to evaluation B inclusive.

Constraints

- $1 \leq T \leq 100$

Small input (30%):

- $1 \leq N \leq 1\,000$
- $1 \leq Q \leq 1\,000$
- $-10^9 \leq N_i \leq 10^9$
- $1 \leq A \leq B \leq N$

Large input (70%):

- $1 \leq N \leq 100\,000$
- $1 \leq Q \leq 100\,000$
- $-10^9 \leq N_i \leq 10^9$
- $1 \leq A \leq B \leq N$

Example

Input	Output
2	Scenario #1:
5 3	1
1 2 3 4 5	1
1 5	2
1 3	Scenario #2:
2 4	-5
5 3	-4
1 -2 -4 3 -5	-4
1 5	
1 3	
2 4	