Negative Score

Orianna is a great swimmer and she's going to a swimming competition this month and needs your help as she is highly paranoic 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.

Example

Input:
```
2
5 3
1 2 3 4 5
1 5
1 3
2 4
5 3
1 -2 -4 3 -5
1 5
1 3
2 4
```

Output:
```
Scenario #1:
1
1
2
Scenario #2:
-5
-4
-4
```

Constraints

- 1 <= T <= 100

Small input (30%):

- 1 <= N <= 1,000
- 1 <= Q <= 1,000
- -10^9 <= Ni <= 10^9
- 1 <= A <= B <= N

Large input (70%):

- 1 <= N <= 100,000
- 1 <= Q <= 100,000
- -10^9 <= Ni <= 10^9
- 1 <= A <= B <= N

Solutions rejudged due to weak test cases.