

Tanushera And His Car

Tanusera is a famous programmer. Recently he has bought a new car. He loves to play with problems, you know. So, he has decided to make a new problem. He has developed a software & installed it in his car. This software measures the distance passed by the car from time **1** to time **N** and shows the distance passed by it in every second. You'll be given the data which the software represents. After that Tanusera will ask you **Q** queries. In each query, he will give you time **t1** and time **t2**. You have to calculate the distance passed by his car from **t1** to **t2**.

Input

Input starts with an integer **T**, denoting the number of test cases. In each case, there will be two integers **N** and **Q** where **N** denotes the amount of times the software has been performed and **Q** denotes the number of queries. The next line will contain **N** integers, **i**th integer is the distance passed by the car in **i**th time. Then there will be **Q** lines. In each line, there will be two integers **t1** and **t2**.

Constraints

$1 \leq T \leq 3$
 $1 \leq N \leq 1000000$
 $0 \leq i^{\text{th}} \text{ integer} \leq 1000000$
 $1 \leq Q \leq 1000000$
 $1 \leq t1 \leq t2 \leq N$

Output

For each case, print the **case number** and the distance passed by the car from time **t1** to time **t2** for every query in single line. See the samples for further clarification.

Example

Input:

```
3
5 4
0 0 5 9 2
1 2
1 1
3 5
5 5

3 3
2 0 8
2 3
1 3
2 2

1 1
5
1 1
```

Output:

Case 1:

0

0

16

2

Case 2:

8

10

0

Case 3:

5

[Original setter of this problem is Risal Shahriar Shefin, RUET]