

Time Limit: - 1 sec

In mathematics, the greatest common divisor (gcd) of two or more integers, when at least one of them is not zero, is the largest positive integer that divides the numbers without a remainder. For example, the gcd of 8, 12, 16 is 4.

That means $\text{gcd}(8,12,16) = 4$. It can be written as $\text{gcd}(8,12,16) = \text{gcd}(\text{gcd}(8,12),16) = \text{gcd}(4,16) = 4$.

The problem is based on gcd. Give you n numbers ($A_1, A_2, A_3, \dots, A_n$) and q query. Each query gives you two integers L, R. You have to print $\text{gcd}(A_L, A_{L+1}, A_{L+2}, \dots, A_R)$.

Input

At first gives you an integer T ($T \leq 10$), is the number of test cases. For each test case -

The first line contains the integer n ($n \leq 10000$).

In the second line, n numbers follow (numbers will be less than or equal 10^9).

The third line contains the integer q ($q \leq 1000$).

q lines follow, where line i contains 2 numbers L and R ($1 \leq L, R \leq n$).

Output

For every test case, print case number and require result.

Sample Input

2

3

1 2 3

3

1 3

2 3

1 2

5

4 8 12 16 20

1

1 5

Sample Output

Case 1:

1

1

1

Case 2:

4

Look, for test case 2 there are 5 numbers 4, 8, 12, 16, 20. And only one query gives $L = 1$, $R = 5$. Now $A_1 = 1*4$, $A_2 = 2*4$, $A_3 = 3*4$, $A_4 = 4*4$, $A_5 = 5*4$. So every number is divisible by 4.

That's why $\gcd(4,8,12,16,20) = 4$.