Variable Sized Arrays ★

Consider an n-element array, a, where each index i in the array contains a reference to an array of k_i integers (where the value of k_i varies from array to array). See the Explanation section below for a diagram.

Given a, you must answer q queries. Each query is in the format `i j`, where i denotes an index in array a and j denotes an index in the array located at $a[i]$. For each query, find and print the value of element j in the array at location $a[i]$ on a new line.

Click here to know more about how to create variable sized arrays in C++.

Input Format

The first line contains two space-separated integers denoting the respective values of n (the number of variable-length arrays) and q (the number of queries).

Each line i of the n subsequent lines contains a space-separated sequence in the format k $a[i]_0$ $a[i]_1$ … $a[i]_{k-1}$ describing the k -element array located at $a[i]$.

Each of the q subsequent lines contains two space-separated integers describing the respective values of i (an index in array a) and j (an index in the array referenced by $a[i]$) for a query.

Constraints

- $1 \leq n \leq 10^5$
- $1 \leq q \leq 10^5$
- $1 \leq k \leq 3 \cdot 10^5$
- $n \leq \sum k \leq 3 \cdot 10^5$
- $0 \leq i < n$
- $0 \leq j < k$
- All indices in this challenge are zero-based.
- All the given numbers are non negative and are not greater than 10^6

Output Format

For each pair of i and j values (i.e., for each query), print a single integer that denotes the element located at index j of the array referenced by $a[i]$. There should be a total of q lines of output.

Sample Input

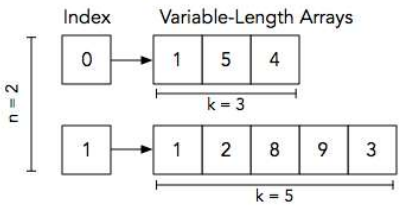
```
2 2
3 1 5 4
5 1 2 8 9 3
0 1
1 3
```

Sample Output

```
5
9
```

Explanation

The diagram below depicts our assembled Sample Input:



We perform the following $q = 2$ queries:

1. Find the array located at index $i = 0$, which corresponds to $a[0] = [1, 5, 4]$. We must print the value at index $j = 1$ of this array which, as you can see, is 5.
2. Find the array located at index $i = 1$, which corresponds to $a[1] = [1, 2, 8, 9, 3]$. We must print the value at index $j = 3$ of this array which, as you can see, is 9.

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Difficulty Easy

Max Score 30

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