William Macfarlane wants to look at an array.

You are given a list of **N**numbers and **Q**queries. Each query is specified by two numbers *i*and *j*; the answer to each query is the sum of every number between the range [i, j] (inclusive).

*Note:*the query ranges are specified using 0-based indexing.

Input

The first line contains **N**, the number of integers in our list (**N <= 100,000**). The next line holds **N** numbers that are guaranteed to fit inside an integer. Following the list is a number **Q**(**Q <= 10,000**). The next **Q** lines each contain two numbers **i** and **j**which specify a query you must answer (**0 <= i, j <= N-1**).

private static void rangeQuery (int [] nums , int [] queries){

int n = nums.length;

int [] prefix = new int[n];

prefix[0] = nums[0];

for(int i = 1 ; i < n ; i++)

prefix[i] = prefix[i - 1] + nums [i];

for(int i = 0 ; i < queries.length; i++){

if (queries[0] == 0)

System.out.println(prefix[queries[1]]);

else

System.out.println(prefix[queries[1]] - prefix[queries[0] - 1] );

}

}