apac test
powered by Google Code Jam

Practice Mode

Round A APAC Test 2016

- Submissions

Googol String

7pt	Not attempted **2083/5209 users** correct (40%)
12pt	Not attempted **957/1730 users** correct (55%)

gCube

8pt	Not attempted **1557/2234 users** correct (70%)
16pt	Not attempted **855/1488 users** correct (57%)

gCampus

10pt	Not attempted **493/1232 users** correct (40%)
15pt	Not attempted **227/482 users** correct (47%)

gSnake

13pt	Not attempted **121/629 users** correct (19%)
19pt	Not attempted **41/88 users** correct (47%)

- Top Scores

cebrusfs	100
sgtlaugh	100
usaxena95	100
akovski	100
NAFIS	100
liuyibo1994	100

Problem B. gCube

This contest is open for practice. You can try every problem as many times as you like, though we won't keep track of which problems you solve. Read the Quick-Start Guide to get started.

Small input 8 points	Solve B-small
Large input 16 points	Solve B-large

Problem

Googlers are very interested in cubes, but they are bored with normal three-dimensional cubes and also want to think about other kinds of cubes! A "D-dimensional cube" has D dimensions, all of equal length. (D may be any positive integer; for example, a 1-dimensional cube is a line segment, and a 2-dimensional cube is a square, and a 4-dimensional cube is a hypercube.) A "D-dimensional cuboid" has D dimensions, but they might not all have the same lengths.

Suppose we have an **N**-dimensional cuboid. The **N** dimensions are numbered in order (0, 1, 2, ..., N - 1), and each dimension has a certain length. We want to solve many subproblems of this type:

1. Take all consecutive dimensions between the $\mathbf{L_i}$-th dimension and $\mathbf{R_i}$-th dimension, inclusive.

2. Use those dimensions to form a D-dimensional cuboid, where D = $\mathbf{R_i}$ - $\mathbf{L_i}$ + 1. (For example, if $\mathbf{L_i}$ = 3 and $\mathbf{R_i}$ = 6, we would form a 4-dimensional cuboid using the 3rd, 4th, 5th, and 6th dimensions of our **N**-dimensional cuboid.)

3. Reshape it into a D-dimensional cube **that has exactly the same volume as that D-dimensional cuboid**, and find the edge length of that cube.

Each test case will have **M** subproblems like this, all of which use the same original **N**-dimensional cuboid.

Input

The first line of the input gives the number of test cases, **T**. **T** test cases follow.

Each test case begins with two integers **N** and **M**; **N** is the number of dimensions and **M** is the number of queries. Then there is one line with **N** positive integers $\mathbf{a_i}$, which are the lengths of the dimensions, in order. Then, **M** lines

dtyfc	100
Legendks	100
Shaon	100
jki14	100

follow. In the ith line, there are two integers $\mathbf{L_i}$ and $\mathbf{R_i}$, which give the range of dimensions to use for the ith subproblem.

Output

For each test case, output one line containing "Case #x:", where x is the test case number (starting from 1). After that, output **M** lines, where the ith line has the edge length for the ith subproblem. An edge length will be considered correct if it is within an absolute error of 10^{-6} of the correct answer. See the FAQ for an explanation of what that means, and what formats of real numbers we accept.

Limits

$1 \le \mathbf{T} \le 100$.
$1 \le \mathbf{a_i} \le 10^9$.
$0 \le \mathbf{L_i} \le \mathbf{R_i} < \mathbf{N}$.

Small dataset

$1 \le \mathbf{N} \le 10$.
$1 \le \mathbf{M} \le 10$.

Large dataset

$1 \le \mathbf{N} \le 1000$.
$1 \le \mathbf{M} \le 100$.

Sample

Input	Output
2 2 2 1 4 0 0 0 1 3 2 1 2 3 0 1 1 2	Case #1: 1.000000000 2.000000000 Case #2: 1.414213562 2.449489743