1042 - Bamboo

Description

Bamboo is a species of plant that grows vertically from the ground. Despite its incredible strength, and which reaches several meters in height, the strong northerly wind eventually overcomes its trunk. A group of young scientists study some properties of this plant, and will need to develop a software to determine the average distance from ground which breaks the bamboo stem.

Input specification

The first line contains the number of cases to process **(1 <= T <= 50)**. Each case consists of a line containing a number **H (0 < H <= 50)** which represents the initial height of the plant in question before breaking, and a number **D**, the distance between the base of the trunk of the plant and the point where it is supported the top of the plant after break and fall down.

Output specification

For every plant should be printed on one line, the value of the height at which it breaks. In the **T+1** line, should be printed the average distance from ground which breaks the bamboo stem of the processed plants. All the calculated values to be written with one decimal place of accuracy.

Sample input

```
3
50.0 20.5
18.0 6.0
32.0 10.2
```

Sample output

```
20.8
8.0
14.4
14.4
```

Hint(s)

Source	XXIII Copa Void de Programación - Yonny Mondelo Hernández
Added by	**ejaltuna**
Addition date	2011-10-12 23:07:40.0
Time limit (ms)	1000
Test limit (ms)	1000
Memory limit (kb)	131072
Output limit (mb)	64
Size limit (bytes)	100000
Enabled languages	C C# C++ Java Pascal Perl PHP Python Ruby Text