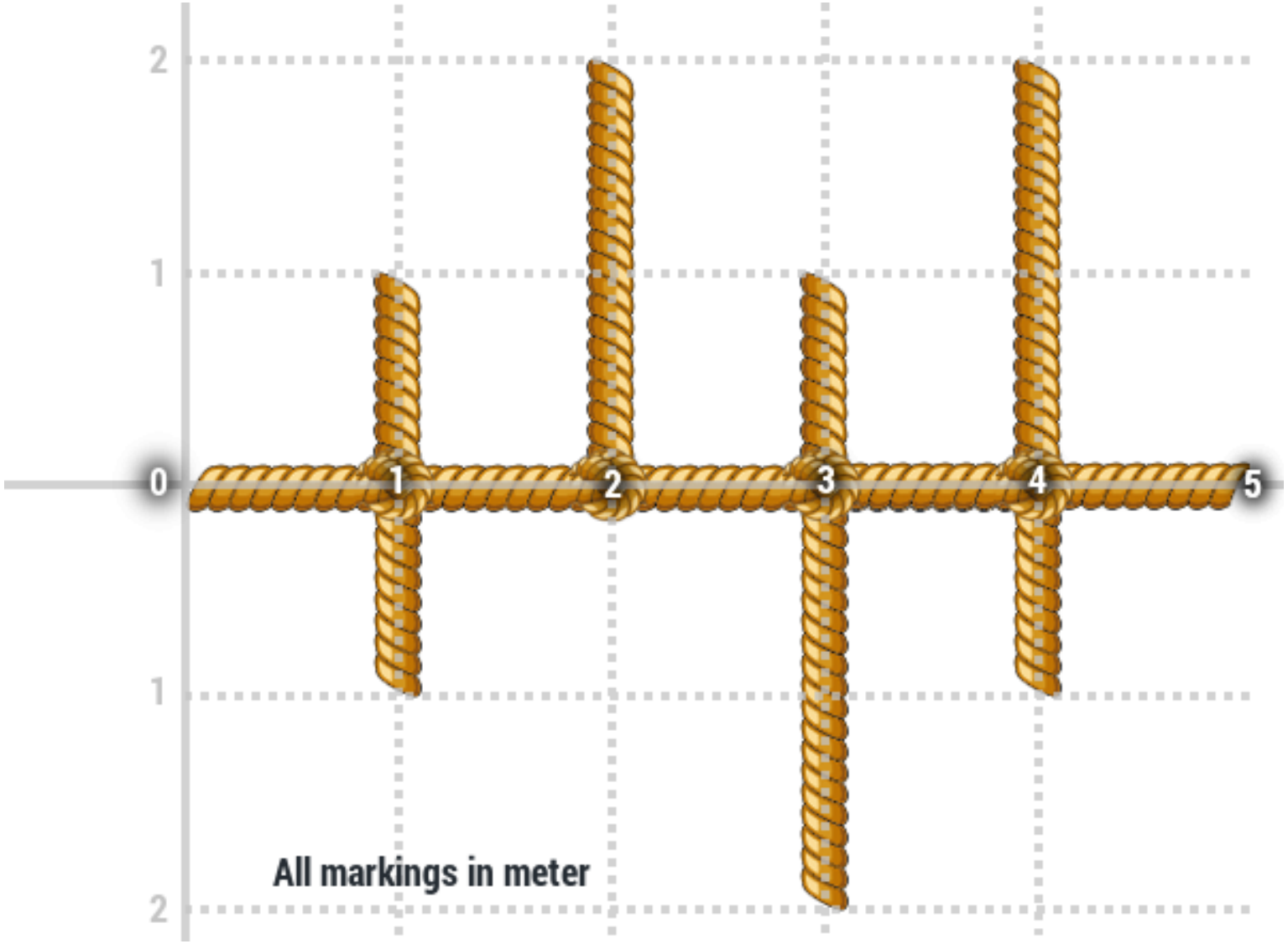
Roy and Ropes

Attempted by: **1870** / Accuracy: **82%** / Maximum Score: **20** / 14 Votes

Tag(s): Ad-Hoc, Dynamic Programming, Easy, Implementation

PROBLEM EDITORIAL ANALYTICS

Roy has a rope of length
L meters. This rope has several other ropes attached to it at the end of every meter (except for the end of the rope).
At each meter there are two ropes attached to this main rope, let's call them upper and lower ropes. See the following example.



Roy lit the rope on fire from the left end. This fire burns down the rope by
1 **meter/minute**.
Your task is to find how much **time (in minutes)** will the fire take to burn down the entire rope.

Input:
First line contains

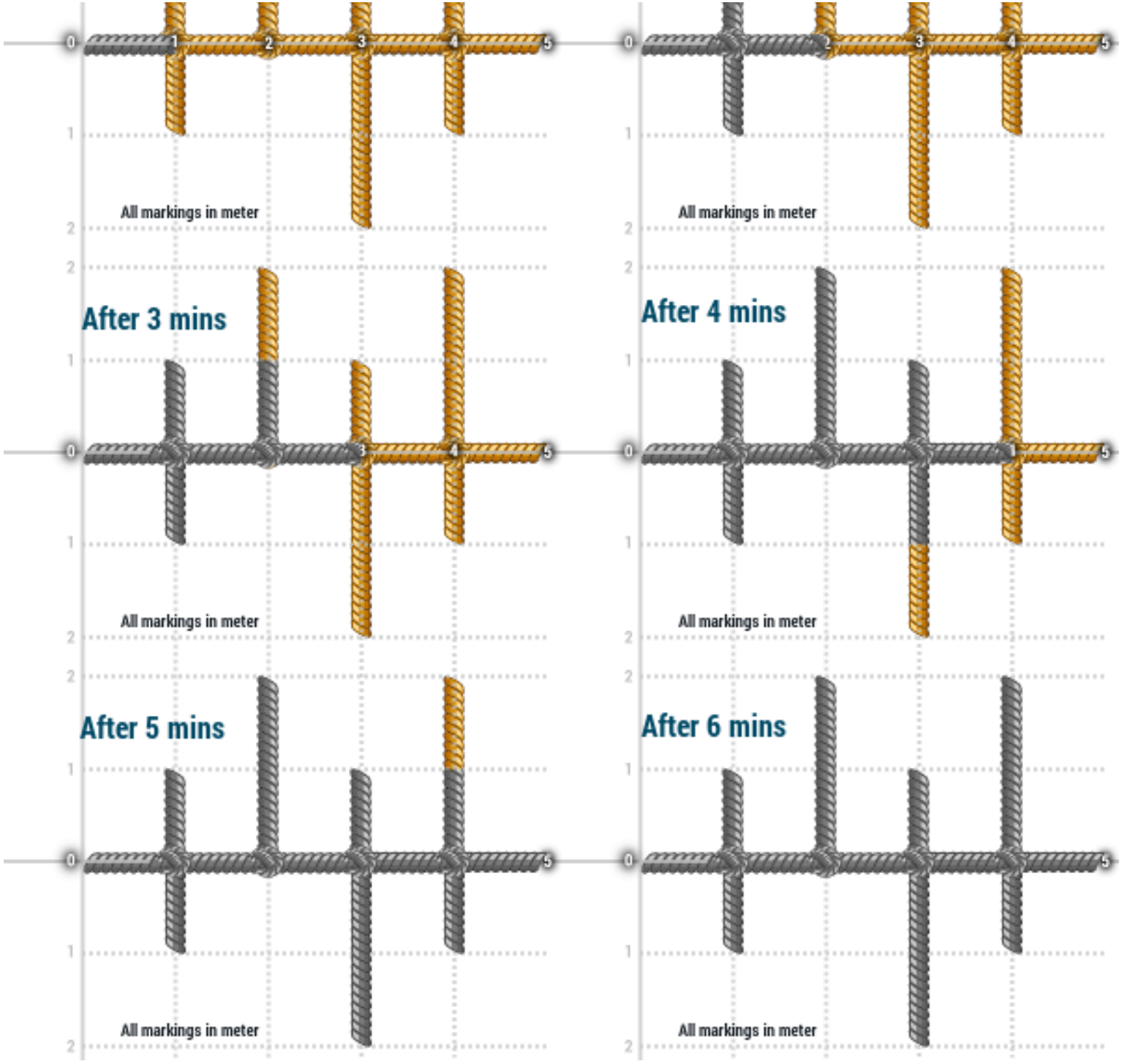
T - number of test cases.
First line of each test case contains
L - length of the rope.
Second line of each test case contains
$L-1$ integers separated by space denoting lengths of all the upper ropes at each meter.
Third line of each test case contains
$L-1$ integers separated by space denoting lengths all the lower ropes at each meter.

Output:
Output the **time (in minutes)** required to burn down the entire rope for each test case in a new line.

Constraints:
$1 \leq T \leq 10$
$2 \leq L \leq 1000000$
$0 \leq upper[i] \leq 1000000$ where
$1 \leq i \leq L-1$
$0 \leq lower[i] \leq 1000000$ where
$1 \leq i \leq L-1$

Sample Explanation:

Follow the nature of fire. Note that after 1 min. Fire can go in all three directions. Hence after 2 mins fire burnt 1 meter in all 3 directions. Rest is explained in the image below.



SAMPLE INPUT

```
1
5
1 2 1 2
1 0 2 1
```

SAMPLE OUTPUT

```
6
```

Time Limit:	1.0 sec(s) for each input file.
Memory Limit:	256 MB
Source Limit:	1024 KB
Marking Scheme:	Marks are awarded when all the testcases pass.
Allowed Languages:	C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Scala 2.11.8, Swift, Visual Basic

CODE EDITOR

Initializing Code Editor...

Your Rating:

PROGRAMMERS WHO SOLVED THIS PROBLEM ALSO SOLVED

Tower Of Hanoi

Attempted By: **577** / Accuracy: **92**

Tablets

Attempted By: **827** / Accuracy: **91**

Once Upon A Time In Time-Land

Attempted By: **1559** / Accuracy: **58**

BEST SUBMISSIONS

LANGUAGE: C

TIME (sec)

0.930179

MEMORY (KiB)

192

by Shubham Kumar

VIEW BEST SUBMISSION | VIEW ALL SUBMISSION

CONTRIBUTOR

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THIS PROBLEM WAS ASKED IN

CHALLENGE NAME
Zopper Hiring Challenge

SOCIAL SHARE

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