Problem F
Finalists

Time limit: 3 seconds

Memory limit: 1024 megabytes

Problem Description

Frank is trying his best to win a slot in Asia Pacific to the World Finals. But he could not find the selection rules to estimate his chance. Last night, Frank's coach found the following document.

```
========================================================================
World Finals team selection rules from Asia Pacific (2022 cycle)

Due to COVID-19 outbreak, this year's Asia Pacific rules will
again be quite different from those of usual years. The plan
for having an Asia Pacific semi-final contest (play-off contest)
has been cancelled and postponed to the next year.

Only the following six regionals will be held this year.

Ho Chi Minh, Vietnam
Jakarta, Indonesia
Manila, Philippines
Seoul, Korea
Taoyuan, Taiwan
Yokohama, Japan

We have set a team participation rule. This rule is a special one
for this year (2022 cycle) only.

Teams from a hosting country (Indonesia, Japan, Korea, Philippines,
Taiwan and Vietnam) can only join the regional held in their own
country. Universities from non-hosting countries should choose a
regional. Note that all teams from a single university have to join
the same regional.

World Finals team selection rules are as follows.

Apply Steps A1 through A4 below in this order.

A1. Define the site score of a regional as follows.
```

```
0.56 * number of universities in regional
+ 0.24 * number of teams in regional
+ 0.14 * number of universities in preliminary contests
+ 0.06 * number of teams in preliminary contests
+ 0.3 * number of foreign teams

Only teams or universities solving at least one problem are counted.

A2. Sort our six regionals according to their site scores.

A3. Let N be the number of World Finals slots given from the ICPC
Headquarters. Until the sum of the number of allocated slots
reaches N, allocate slots to regionals, one by one, in the
descending order of their site scores. When all six regionals
are allocated one slot each, continue from the regional with the
highest site score in the round robin fashion.

A4. For each regional, let M be the number of slots allocated to the
regional through the step A3. Select the M highest ranked
universities. The team with the highest rank in the university
is automatically selected.
=========================================================================
```

Assume that the document is the final selection rules for teams from Asia Pacific. Given `N` and the necessary numbers to calculate the site scores, please write a program to compute the number of slots allocated to Taiwan.

Input Format

There are seven lines in the inputs. The first line contains `N`, the number of World Finals slots given from the ICPC Headquarters. Each of the following six lines consists of one string s and five non-negative integers p_t, p_u, r_t, r_u, f. The string and the numbers are separated by spaces. s is a country hosting a regional contest. p_t is the number of teams solving at least one problem in the preliminary contests hosted by the country s. p_u is the number of universities solving at least one problem in the preliminary contests hosted by the country s. r_t is the number of teams solving at least one problem in the regional contest hosted by the country s. r_u is the number of universities solving at least one problem in the regional contest hosted by the country s. f is the number of foreign teams solving at least one problem in the regional hosted by the country s.

Output Format

Output the number of slots allocated to Taiwan.

Technical Specification

- N is at least 6 and at most 50.
- Each line has a distinct s.
- s is among the following countries: Vietnam, Indonesia, Philippines, Korea, Taiwan, and Japan.
- $0 \leq p_u \leq p_t \leq 5000$
- $0 \leq r_u \leq r_t \leq 300$
- $0 \leq f \leq 30$
- You may assume that distinct regional contests have different site scores.
- The size of an input file is no more than 64 kilobytes.

Sample Input 1

```
17
Japan        500  95  40 30  5
Vietnam      400  50 150 40 20
Indonesia    700  25  80 35 20
Taiwan       200  30 100 35  1
Korea        600 100 100 70  0
Philippines   50  10  40 15 15
```

Sample Output 1

```
3
```

Sample Input 2

```
16
Japan        500       95  40 30  5
Taiwan       200 30   100 35  1
Indonesia    700 25    80 35 20
Philippines   50 10     40 15 15
Korea        600 100     100 70  0
Vietnam      400  50       150 40 20
```

Sample Output 2

```
2
```

Note

The document in the problem statement is not official. Please refer to Prof. CJ Hwang's blog https://icpcasia.wp.txstate.edu/ for the official rules.

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