Problem A. Cute Amal

Program:	`cute.(c|cpp|java)`
Input:	`cute.in`
Balloon Color:	`White`

Amal Fayed was a contestant in ACPC, one day she was chatting with coach Fegla while she was at work. She told him she was bored and asked him to give her a simple problem to pass some time at work.

He was busy but he didn't want to let her down, so he asked her to solve this problem: Coach Fegla gives her a letter, if the letter was a vowel, print **Vowel**, else, print **Consonant**.

Input

The first line contaions a single integer **T** denoting the number of test-cases.

Each test-case is a single English letter on a single line.

Output

For each test-case, print either **Vowel** or **Consonant** on a single line each.

Example

cute.in	Standard Output
2 a z	Vowel Consonant

Note

The vowels are 'A', 'E', 'I', 'O', 'U'

Problem B. Light A Cigarette

Program:	`marlboro.(c|cpp|java)`
Input:	`marlboro.in`
Balloon Color:	`Pink`

During Hossam's Wedding, everything went smoothly and everyone was happy except for one problem. Hossam's uncle doesn't like the fact that Hossam is a smoker. He doesn't like to see him smoking at all and would give him a hard time. So during the entire wedding, Hossam could not manage to finish a cigarette. Every time he lights one his uncle shows up and he had to throw it away before finishing it.

A few days after the wedding Hossam remembered this incidence and noticed that he must have wasted a lot of cigarettes so he decided to write a problem about it. Given an array, each element represents the amount Hossam managed to smoke in secret from that cigarette.

Can you sum the smoked amount, and figure out how many full cigarettes is equivalent to what Hossam wasted?

Input

Your program will be tested on one or more test cases. The first line of the input contains a single integer $\boldsymbol{T}$ ($1 \leq \boldsymbol{T} \leq 100$) the number of test cases. Followed by $\boldsymbol{T}$ test cases.

Each test case consists of $\boldsymbol{2}$ lines.The first one contains an integer $\boldsymbol{N}$ ($1 \leq \boldsymbol{N} \leq 10^5$), the number of cigarettes.

The next line consists of $\boldsymbol{N}$ doubles separated by a single space: $\boldsymbol{X}_i$ ($0 \leq \boldsymbol{X}_i \leq 1$) which refers to the amount of i-th cigarette Hossam managed to smoke.

Output

For each test case print a single line containing the number of full cigarettes Hossam wasted rounded to exactly 4 decimal places.

Example

marlboro.in	Standard Output
1 3 0.5 0.4 0.5	1.6000

Problem C. Fake Websites

Program:	`fake.(c|cpp|java)`
Input:	`fake.in`
Balloon Color:	`Rose`

One of the problems we face while working online is that some websites are fake or not valid .

We say a website link is valid if the link :

* begins with **www.**

* ends with **.com** or **.net**

* consists of **lowercase** English letters or **digits** only (except for the 2 **dots**)

* it's length is greater than 8

It's very important to use valid and legal websites , so you need to do a check on the website link to make sure it is valid .

Write a program to do that ..

Input

The input starts with an integer T, denoting the number of test cases.

Each test case contains a single string S represents the website link ($1 <= |S| <= 30$)

$|S|$ denotes the length of the string S

Output

For each test case print a single line containing the word **FAKE** if the webiste is fake , otherwise **SAFE** .

Example

fake.in	Standard Output
4 www.goolge.com www.goo@gle.com www.goo.gle.com wWw.GoOglE.com	SAFE FAKE FAKE FAKE

Problem D. Traffic Lights

Program:	`traffic.(c|cpp|java)`
Input:	`traffic.in`
Balloon Color:	`Blue`

Tamer is traveling with his brother on a long highway. He sees a traffic light at a distance. He calculated that it will take him x seconds until he arrives at the traffic light, he also knows that the green light lasts for g seconds, the yellow light lasts for y seconds and the red light lasts for r seconds. Now he is wondering in what color will the light be when he arrives there?

You know he is now busy driving, so he asks you to tell him the answer! you know that the light has just turned green at the moment of his question, and that the sequence of the lights is: `GREEN`, `YELLOW`, `RED` and then `GREEN` and so on.

Input

The first line of input contains one integer T - the number of test cases.

Each test case contains four integers x, g, y, r as described in the statement.

$1 \leq x, g, y, r \leq 10^9$

Output

For each test case output a single word, `"RED"` or `"YELLOW"` or `"GREEN"` without the quotes.

Examples

traffic.in	Standard Output
3 5 5 2 8 7 5 2 8 16 5 2 8	YELLOW RED GREEN

Note

In the samples the light changes as follows:

Light: `g, g, g, g, g, y, y, r, r, r, r, r , r , r , r , g , g , g , g ...`

Time : `0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18...`

Problem E. The Three Kings of Asgard

Program:	`people.(c|cpp|java)`
Input:	`people.in`
Balloon Color:	`Yellow`

The Three Kingdoms of Asgard are ruled by three very powerful and wealthy kings: Adam, Bob and Carl. Many people think they are very, very evil kings. Every year they exchange some artillery forces to keep the kingdom at peace.

Traditionally king Adam has to give to king Bob as much force as king Bob has. then King Bob gives King Carl as much force as King Carl has. In the end King Carl gives King Adam as much force as King Adam has left.

This year the three kings were surprised to find that all three of them have the same amount of force, but they couldn't recall how this happened so it's your job to find out how much force each one had last year!

Input

The first line contains T the number of test cases your program has to solve.

Each test case contains one number $N(1 \leq N \leq 10^9)$ the amount of force each king has this year.

Output

For each testcase output three integers: A, B, C. The amount of power Adam, Bob and Carl had last year, respectively. Or say that it is `"Impossible"`.

Examples

people.in	Standard Output
2 24 10	33 21 18 Impossible

Note

In the first testcase:

last year: Adam has 33, Bob has 21 and Carl has 18.

Adam gives Bob as much as Bob has, so Adam in now 12 and Bob is now 42, Carl still have 18.

After that: Bob gives Carl 18, so $Adam(12), Bob(24), Carl(36)$

Now Carl gives Adam 12: $Adam(24), Bob(24), Carl(24)$. So In the end Each king has 24 force, as the input indicates.