April Fools Day Contest 2014

A. The Great Game

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Two teams meet in The Game World Championship. Some scientists consider this game to be the most intellectually challenging game in the world. You are given two strings describing the teams' actions in the final battle. Figure out who became the champion.

Input
The input contains two strings of equal length (between 2 and 20 characters, inclusive). Each line describes the actions of one team.

Output
Output "`TEAM 1 WINS`" if the first team won, "`TEAM 2 WINS`" if the second team won, and "`TIE`" if there was a tie.

Sample test(s)

input
`[]()[]8<` `8<[]()8<`
output
`TEAM 2 WINS`

input
`8<8<()` `[]8<[]`
output
`TIE`

B. Mysterious Language

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

You are given a mysterious language (codenamed "Secret") available in "Custom Invocation" tab. Figure out what this language is and write a program which prints its name. Note that the program must be written in this language.

Input

This program has only one test (your program doesn't have to read anything).

Output

Output the name of the mysterious language. Note that the name is case-sensitive and might contain digits and special characters.

Sample test(s)

Note

Some scientists disagree on what should be considered as a language and what should be considered as a dialect.

C. Magnum Opus

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Salve, mi amice.

Et tu quidem de lapis philosophorum. Barba non facit philosophum. Labor omnia vincit. Non potest creatio ex nihilo. Necesse est partibus.

Rp:

I Aqua Fortis

I Aqua Regia

II Amalgama

VII Minium

IV Vitriol

Misce in vitro et æstus, et nil admirari. Festina lente, et nulla tenaci invia est via.

Fac et spera,

Vale,

Nicolas Flamel

Input
The first line of input contains several space-separated integers a_i ($0 \le a_i \le 100$).

Output
Print a single integer.

Sample test(s)

input
2 4 6 8 10
output
1

D. Big Data

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Little Petya wanted to give an April Fools Day present to some scientists. After some hesitation he decided to give them the array that he got as a present in Codeforces Round #153 (Div.2). The scientists rejoiced at the gift and decided to put some important facts to this array. Here are the first few of the facts:

- The highest mountain above sea level in the world is Mount Everest. Its peak rises to 8848 m.
- The largest board game tournament consisted of 958 participants playing chapaev.
- The largest online maths competition consisted of 12766 participants.
- The Nile is credited as the longest river in the world. From its farthest stream in Burundi, it extends 6695 km in length.
- While not in flood, the main stretches of the Amazon river in South America can reach widths of up to 1100 km at its widest points.
- Angel Falls is the highest waterfall. Its greatest single drop measures 807 m.
- The Hotel Everest View above Namche, Nepal — the village closest to Everest base camp – is at a record height of 31962 m
- Uranium is the heaviest of all the naturally occurring elements. Its most common isotope has a nucleus containing 146 neutrons.
- The coldest permanently inhabited place is the Siberian village of Oymyakon, where the temperature of -68°C was registered in the **twentieth** century.
- The longest snake held in captivity is over 25 feet long. Its name is Medusa.
- Colonel Meow holds the world record for longest fur on a cat — almost 134 centimeters.
- Sea otters can have up to 10000 hairs per square inch. This is the most dense fur in the animal kingdom.
- The largest state of USA is Alaska; its area is 663268 square miles
- Alaska has a longer coastline than all of the other 49 U.S. States put together: it is 154103 miles long.
- Lake Baikal is the largest freshwater lake in the world. It reaches 1642 meters in depth and contains around one-fifth of the world's unfrozen fresh water.
- The most colorful national flag is the one of Turkmenistan, with 106 colors.

Input
The input will contain a single integer between 1 and 16.

Output
Output a single integer.

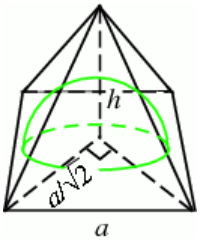
Sample test(s)

input
1
output
1

input
7
output
0

E. Dome

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output



Input

The input contains a single floating-point number x with exactly 6 decimal places ($0 < x < 5$).

Output

Output two integers separated by a single space. Each integer should be between 1 and 10, inclusive. If several solutions exist, output any of them. Solution will exist for all tests.

Sample test(s)

input
1.200000
output
3 2

input
2.572479
output
10 3

input
4.024922
output
9 9

F. 000001

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Input
The input contains a single integer a ($1 \le a \le 64$).

Output
Output a single integer.

Sample test(s)

input
2
output
1

input
4
output
2

input
27
output
5

input
42
output
6

G. On a plane

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Input

The first line contains a single integer n ($1 \le n \le 1000$) — the number of points on a plane.

Each of the next n lines contains two real coordinates x_i and y_i of the i^{th} point, specified with exactly 2 fractional digits. All coordinates are between -1000 and 1000, inclusive.

Output

Output a single real number θ — the answer to the problem statement. The absolute or relative error of your answer should be at most 10^{-2}.

Sample test(s)

input

```
8
-2.14 2.06
-1.14 2.04
-2.16 1.46
-2.14 0.70
-1.42 0.40
-0.94 -0.48
-1.42 -1.28
-2.16 -1.62
```

output

```
5.410
```

input

```
5
2.26 1.44
2.28 0.64
2.30 -0.30
1.58 0.66
3.24 0.66
```

output

```
5.620
```

input

```
8
6.98 2.06
6.40 1.12
5.98 0.24
5.54 -0.60
7.16 0.30
7.82 1.24
8.34 0.24
8.74 -0.76
```

output

```
5.480
```

input

```
5
10.44 2.06
10.90 0.80
11.48 -0.48
12.06 0.76
12.54 2.06
```

output

```
6.040
```

input

```
8
16.94 2.42
15.72 2.38
14.82 1.58
14.88 0.50
15.76 -0.16
16.86 -0.20
17.00 0.88
16.40 0.92
```

output

```
6.040
```

input

```
7
20.62 3.00
21.06 2.28
21.56 1.36
21.66 0.56
21.64 -0.52
22.14 2.32
22.62 3.04
```

output

```
6.720
```

H. A + B Strikes Back

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

A + B is often used as an example of the easiest problem possible to show some contest platform. However, some scientists have observed that sometimes this problem is not so easy to get accepted. Want to try?

Input

The input contains two integers a and b ($0 \le a, b \le 10^3$), separated by a single space.

Output

Output the sum of the given integers.

Sample test(s)

input
5 14
output
19

input
381 492
output
873

I. Feed the Golorp

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

Golorps are mysterious creatures who feed on variables. Golorp's name is a program in some programming language. Some scientists believe that this language is Befunge; golorps are tantalizingly silent.

Variables consumed by golorps can take values from 0 to 9, inclusive. For each golorp its daily diet is defined by its name. Some golorps are so picky that they can't be fed at all. Besides, all golorps are very health-conscious and try to eat as little as possible. Given a choice of several valid sequences of variable values, each golorp will choose lexicographically smallest one.

For the purposes of this problem you can assume that a golorp consists of jaws and a stomach. The number of variables necessary to feed a golorp is defined by the shape of its jaws. Variables can get to the stomach only via the jaws.

A hungry golorp is visiting you. You know its name; feed it or figure out that it's impossible.

Input

The input is a single string (between 13 and 1024 characters long) — the name of the visiting golorp. All names are similar and will resemble the ones given in the samples. The name is guaranteed to be valid.

Output

Output lexicographically smallest sequence of variable values fit for feeding this golorp. Values should be listed in the order in which they get into the jaws. If the golorp is impossible to feed, output "`false`".

Sample test(s)

input
`?(_-_/___*__):-___>__.`
output
`0010`

input
`?(__-_+_/_____):-__>__,_____<__.`
output
`false`

input
`?(_____/____+_____*__-_____*_____-___):-__<___,___<____,____<_____,_____<_____,_____<_____.`
output
`0250341`

input
`?(__+___+__-___):-___>__.`
output
`0101`