（2019级期末考试）Convert date

2020-02-21 19:40 1000 ms 32 MB 傅禹泽 (fuyz@mail2.sysu.edu.cn)

Description

There are n students in the class. The name and birthday of each student is recorded by Teacher Lisa. So Lisa can easily calculate which day of the year that each student born. （e.g., 2019.2.1 is the 32^{th} day of the year.） Now given the record of students' names and birthdays, besides one required student name, please help Lisa calculate which day of the year that the student born.

Input Description

The first line is a positive integer t for the number of student records. (1 <= t <=10)

Each record contains 4 lines: name, year of birth, month of birth, day of birth.

The last line is the required student name.

(The length of each name is less than or equal to 15, and all the inputting date is valid. The required student name is one of the name in student records. No student has the same name.)

Output Description

Which day of the year that the student born.

Sample Input

```
4
Jennie
1996
1
16
Jisoo
1995
1
3
Lisa
1997
3
27
Rose
1997
2
11
Lisa
```

Sample Output

```
86
```

（2019级期末考试）Count

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Description

Given an integer *N*, you can write 11 to *N* in one line.
For example, when *N*=12, the number from 11 to *N* written in a line, we can get a new string:
123456789101112123456789101112

There are one '0', five '1', two '2', ..., one '9' in the new string.
Your task is very easy, for a given *N*, tell me how many '0','1','2', ...,'8','9' in the new string which write down from 11 to *N*?

Input

The first line contains an integer *M* ($1 \leqslant M \leqslant 10$), indicating the number of test cases.

Then, for each case, there is only a number *N* ($1 \leqslant N \leqslant 1000$).

Output

One line for each case, print the number of '0','1','2', ...,'8','9', separated by a space.

Sample Input

```
2
12  5
```

Sample Output

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

（2019级期末考试）The Growth Road of Jack

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Description

Jack is addicted to online games. Once, he is playing a game of fighting monsters and upgrading. The initial ability value of his character is a. In the next period of time, he will meet n monsters in turn, each with a defense of *b1,b2,b3,...,bn* .

If the monster's defense bi is less than or equal to his current ability value c, then he can easily defeat the monster and increase his ability value by *bi* ; if *bi* is greater than c, then he can also defeat the monster, but his ability value can only increase the greatest common divisor of *bi* and c.

So after a series of exercises, what is Jack's final ability value?

Input

The first row is the number of test data groups.

For each group of test data, the first row is two integers, n (1 \le n < 1000001≤n<100000), indicating the number of monsters, and a, indicating the initial ability value of Jack. The second line is n integers. $b1,b2,b3,...,bn$ (1≤bi≤n) indicates the defense of each monster.

Output

For each group of test data, output one line which only includes the the final ability value of Jack.

Examples

Input:

```
2
3 50
50 105 200
5 20
30 20 15 40 100
```

Output:

```
110
205
```

（2019级期末考试）Search by Name

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Description

Given a name, output the information of the student if the name is her/his first name or last name.
If there are multiple matches, output all of them (each student in a line).
You need to include `source.h` and implement `main` function.

Input format

A string `s` that indicates a last name or a first name. The string contains only lower case letters and upper case letters.
Note that `1<= len(s) <=20`.

Output format

All data for the students whose have the input name (each student in a line).
Print them according to their `student_id` in ascending order.
If there isn't a match, do not print anything.
Note: use `\t` to separate data within a line.

Example input

Epp

Example output

1034 Epp Eric 18 M 50 5718 BOS

（2019级期末考试）Find The Word

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Description

Given a paragraph and a key word, try to find the key word in the paragraph and output the positions of the keyword in the paragraph.

Input format

The first line is a long string containing spaces, and its length is less than 300 characters.
The second line is a key word whose length is less than 20.

Output format

Integers that indicate the key word positions in the long string. These integers are separated by a space. New line is not needed at the end.

Example input

```
fkqy yqvnrtys zrmz gfveulqfp fkqy rwdnxeu qekla gdphcspi hbsfyf adzpbf kklrwq
zmixrpi ffeclhbvf byeqfqojw osile fkqy bxq
fkqy
```

Example output

```
0 29 112
```

（2019级期末考试）Double Array

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Description

Input multiple lines of numbers from the console, please to allocate arrays of double variable to store these lines.
Then, use a pointer array to store the addresses of these double arrays.
You need to implement the two functions: `double** make_list(double data[], int sizes[])` and `void free_lists(double* lists[])` .

Input format

There are N lines input and each line contains no more than M double number(1<=N<=20, 1<=M<=10).

Output format

The same numbers as input.

Example input

```
0.288 0.919 0.130 0.610 0.696 0.616 0.779
0.949 0.982 0.861 0.608 0.156 0.617
0.294 0.384 0.980 0.203 0.502
0.286 0.157 0.866 0.329 0.733
0.269 0.370 0.669
0.473 0.829 0.509 0.714
```

Example output

```
0.288 0.919 0.130 0.610 0.696 0.616 0.779
0.949 0.982 0.861 0.608 0.156 0.617
0.294 0.384 0.980 0.203 0.502
0.286 0.157 0.866 0.329 0.733
0.269 0.370 0.669
0.473 0.829 0.509 0.714
```

（2019级期末考试）Sort The Bread

2020-02-22 19:40 1000 ms 32 MB 傅禹泽 (fuyz@mail2.sysu.edu.cn)

Description

There are 10 kinds of bread and we know their prices, weights and sizes respectively. Please sort the breads using a special key in the descending order. The key is defined as: `price + weight + size - max(price, weight, size)`.
You need to complete the function `void sort(struct Bread breads[], int size)`.
If two key are equal, sort them in the same order as their initial order. An example is showed to explain it:
Before sort:

```
5 6 7
1 2 3
7 6 5
```

after sort:

```
5 6 7
7 6 5
1 2 3
```

Input format

There are 10 lines in the input, and there are 3 double numbers in each for the price, weight and size of the i-th bread.

```
p1 w1 s1
p2 w2  s2
...
p10 w10 s10
```

Output format

There are 10 lines in the output, and there are 3 double numbers in each for the price, weight and size of the i-th bread.

```
P1 w1 S1
P2 w2 S2
...
P10 w10 S10
```

Example input

```
261 796 170
303 678 999
653 343 325
175 744 784
545 92 756
34 705 682
758 600 520
773 723 983
646 865 440
152 301 409
```

Example output

```
773.000000 723.000000 983.000000
758.000000 600.000000 520.000000
646.000000 865.000000 440.000000
303.000000 678.000000 999.000000
175.000000 744.000000 784.000000
34.000000 705.000000 682.000000
653.000000 343.000000 325.000000
545.000000 92.000000 756.000000
152.000000 301.000000 409.000000
261.000000 796.000000 170.000000
```

（2019级期末考试）Reverse the order of words

2020-02-23 19:40 1000 ms 32 MB 傅禹泽 (fuyz@mail2.sysu.edu.cn)

Description

Given a string, reverse the order of words in the string

Sample 1:

```
Input: "the sky is blue."
Output: "blue. is sky the"
```

Sample 2:

```
Input: "   hello world!  "
Output: "world! hello"
```

Note: If there are more than one space between two words, only one space remains after reverse.

Rules:

- A word is a number of consecutive characters that do not contain spaces
- The input string may contain extra spaces at the beginning or end, which needs to be removed after reverse
- If there are more than one space between two words, only one space remains after reverse
- There is no newline at the end
- The length of the input string should not exceed 300

（2019级期末考试）Is Intersect

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Description

Given two bounded line segment in 1-d space, line1(b1, e1) and line2(b2, e2), judge whether line1 is intersected with line2. If so, output true, otherwise output false.

Input

There are 10 lines. There are four integers in each line. Let them be b1, e1, b2, e2, which denote the beginning of line1, the end of line1, the beginning of line2, the end of line2, respectively.
Note: 0 <=b1 <=e1 <=99, 0<=b2<=e2<=99.

Output

If line1 is intersects with line2, output true, otherwise false.
b1 == e2 and b2==e1 are considered to be intersected.

Sample Input

15 59 16 48
31 61 20 30
40 79 2 31
14 20 42 58

20 60 49 82
44 91 15 23
85 97 10 56
75 93 26 33
7 76 8 65
32 50 57 88

Sample Output

true
false
false
false
true
false
false
false
true
false

（2019级期末考试）Convert to Chinese capital amount

2020-02-23 19:40 1000 ms 32 MB 傅禹泽 (fuyz@mail2.sysu.edu.cn)

Description

Given a integer number n, covert n to Chinese capital amount.

The conversion rules are as follows:

1. The beginning of Chinese capital amount should be marked with “人民币”. Other Chinese capital amount figures that can used are “壹”, “贰”, “叁”, “肆”, “伍”, “陆”, “柒”, “捌”, “玖”, “拾”, “佰”, “仟”, “万”, “亿”, “元”, “零” and “整”.
2. Since the entered amount is integer, “整” should be added to the end of amount, e.g., “532” should be converted to “人民币伍佰叁拾贰元整”.
3. If there is one or more than one “0” in the middle of number, “零” should be added to the corresponding position of Chinese capital amount, e.g., “502” should be converted to “人民币伍佰零贰元整”, “105000” should be converted to “人民币拾万零伍仟元整”. If there are several “0” in the middle of the number, only one “零” should be added, e.g., “6007” should be converted to “人民币陆仟零柒元整“.
4. If there is one or more than one “0” at the end of number, there is no need to add “零”, e.g., “1680” should be converted to “人民币壹仟陆佰捌拾元整”.

Hint

Chinese capital amount: 中文大写金额

Input Description

An integer number n. (1 <= n <= 1000, 000, 000)

Output Description

The corresponding Chinese capital amount.

Sample Input 1

```
151121
```

Sample Output 1

```
人民币拾伍万壹仟壹佰贰拾壹元整
```

Sample Input 2

```
532
```

Sample Output 2

```
人民币伍佰叁拾贰元整
```