

DCP-4: Great!!! The Work Is Done

The Dev Skill team follows the Agile methodology in their development. Agile development is a phrase used in software development to describe methodologies for incremental software development. Agile development is an alternative to traditional project management where emphasis is placed on empowering people to collaborate and make team decisions in addition to continuous planning, continuous testing and continuous integration. To do that, a project is divided in small sprints. After releasing a sprint to client, new features are added to the next sprint and the bugs of previous sprint are fixed.

We know that there is a project manager for each project, who sets the deadline for each sprint. Everyone on the development team along with the team lead is aware of this deadline.

Now we need a developer on our Dev Skill team. To be on the team, you must know when your project will be complete. So now you must write a code that will tell you when your project is going to be complete.

Input:

You should take input up to EOF. First line of each input will hold two numbers separated by a single space. First number will denote the total hours to finish the sprint ($0 < CT \leq 100$) and the second one will be number of members in the team ($0 < N \leq 100$). Then the N number of lines will hold the total hours a member can work each day ($0 < P \leq 24$)

Output:

Print just single line for each test case. If it takes one day to finish the project then print “**Project will finish within 1 day.**” For more than one days print “**Project will finish within D days.**”, where D denotes the number of days to finish the project.

Sample Input

10 2

5

5

10 2

5

4

Sample Output

Project will finish within 1 day.

Project will finish within 2 days.

DCP-13: Banglawash

When Bangladesh cricket team whitewashes any other team then we call it a Banglawash and this is so popular term in our country. Recently Bangladesh cricket team whitewashed Pakistan cricket team in ODI series. To congratulate our Bangladesh cricket team we have prepared this problem. Now in the test series we are looking forward for same type of Banglawash and we want to bring placards in the stadium to support our team after another Banglawash. But in this problem we want you to do an easy calculation to measure the result of the Test series.

The test series will have two test matches. Consider the test matches will be 5 day match without any rain intervention. Four integers will indicate the runs of the two innings of both sides. First two integers will indicate the runs of two innings of Bangladesh team and last two integers will indicate the runs of two innings of Pakistan team. For two test matches you have to decide whether Bangladesh team won the both test or not. If Bangladesh win both test match then you have to print “Banglawash”.

Input:

Input starts with an integer **T** (≤ 30), denoting the number of test cases.

Each test case will have two lines. First line indicates the scores of first test match and second line indicates the scores of second test match. Each line will contain four integers separated by space and among these four integers the first two indicates the scores of Bangladesh team and the last two integers indicate the scores of Pakistan team. All the score values will be in range ≥ 0 and ≤ 999

Output:

For each test case, print either “Banglawash” (without quotes) or “Miss” (without quotes). If Bangladesh team wins both test matches then print “Banglawash” otherwise print “Miss”.

Sample Input

```
3
120 400 400 100
300 200 200 200
0 0 0 0
999 999 999 999
277 521 326 187
199 231 580 233
```

Sample Output

```
Banglawash
Miss
Miss
```

DCP-25: Palindrome

A palindrome is a word, phrase, number, or other sequence of characters which reads the same backward or forward.

We want you to write a program that can check whether a given input is palindrome or not. The input will only contain English alphabets and digits. Remember, in this task, uppercase and lowercase letter count as same.

Input:

Input starts with an integer **T** (≤ 30), denoting the number of test cases. Each test case will have one line containing the text to test. You can assume that each input text will be less than 100 characters in length.

Output:

For each test case, print either “Yes” (without quotes) or “No” (without quotes). If the input text is palindrome then print “Yes”, otherwise print “No”

Sample Input

```
3
abababa
ababab
1EYE1
```

Sample Output

```
Yes
No
Yes
```

DCP-26: Reverse

This is a very simple problem. We give you a string; you reverse it and print it out. The input string will contain ASCII characters only. But it can have space, tabs etc. as well. The end of the string will be always by new line character.

Input:

Input starts with an integer **T** (≤ 30), denoting the number of test cases.

Each test case will have one line containing the string to reverse. Length of the strings will be less than 1000 characters.

Output:

For each test case, print the reversed string on a line. Check sample input / output below to understand the format.

Sample Input

```
3
Reverse
eye
I am at home.
```

Sample Output

```
esreveR
eye
.emoh ta ma I
```

DCP-30: Count It

In this problem you have to count the letters in a string and print the count. For this problem always consider the string will only contain lowercase English letters that is ‘a’ to ‘z’ only. So there is no space or other invalid character in input. You have to count the frequency of each letter and print the frequency along with the letter. If any letter has zero frequency (zero occurrences) then you should skip printing it.

Input:

First line of the input will consist of an integer which represent the test case **T** (**0 < T<= 30**). Each test case contains a string of only lower case English letters. You can assume the length of the string will be no greater than 100 characters.

Output:

For each test case first print the test case number as “**Case X:**” where **X** is the test case number. Then print the frequencies of each letter. Each letter should be printed in a line with the format, “**A B**”. Where **A** is the letter and **B** is the frequency. Any frequency of 0 should be avoided from printing. You should print the list in ascending order of the letter that is you should print frequency of ‘a’ first then ‘b’, then ‘c’ up to ‘z’.

Sample Input

```
3
blabla
dragon
thisishasan
```

Sample Output

```
Case 1:
a 2
b 2
l 2
Case 2:
a 1
d 1
g 1
n 1
```

```
o 1
r 1
Case 3:
a 2
h 2
i 2
n 1
s 3
t 1
```

DCP-33: Catch Me If You Can

Anindya and Abir are best buddies . They are very good programmers . Besides that, they have hidden Identity . Anindya is an undercover super cop and Abir is a real life robin hood but is a dangerous robber in the eye of law . Abir robs black money from rich people and give it back to the poor . As Abir is a very good programmer , he uses all types of modern instruments and never left any evidence of the crime scene . So unless Anindya catches Abir in red handed , he can't prove anything against him . Unfortunately , today Abir makes a mistake and Anindya is behind him . But Abir has an invincible watch same as like the movie "Mr India" . Whenever he presses his invincible watch it needs some time say T to active and then Abir becomes invincible and no one able to catch him . Anindya has a constant velocity $v1$ ($1 \leq v1 \leq 100$) and Abir has a constant velocity $v2$ ($1 \leq v2 \leq 100$) and distance between them is right now d ($0 \leq d \leq 100$) . Abir needs T ($0 \leq T \leq 100$) time to active his invincible watch . Can you tell us what will happen to Abir ?

If Abir can survive this T seconds then there is no way Anindya can catch Abir . For this scenario you need to print "Abir will survive" otherwise print "Abir will be arrested"

Input:

Input starts with an integer TC ($TC \leq 100$) denoting number of test cases . Each of them consists of four integers $v1$ (Anindya's constant velocity) , $v2$ (Abir's constant velocity) , d (Distance between Abir and Anindya) , T (Time to active the invincible watch)

Output:

For each test case first print the case number "**Case %d:** " then print "Abir will survive" if Abir able to escape from Anindya otherwise print "Abir will be arrested".

Sample Input

```
2
3 2 1 1
3 2 1 2
```

Sample Output

```
Case 1: Abir will survive
Case 2: Abir will be arrested
```

DCP-34: Number of Digits

Shakil always loves to fun with children. One day shakil asks his 5 years old cousin Nishi, to solve a problem. Shakil says “I will Give you an integer (0 – 1000). Now tells me, how many digits contain that integer? “. Nishi is totally stuck in this problem. Can you help Nishi to make a smile on her little face?

Input:

First line of the input will consist of an integer which represent the test case **T** ($0 < T \leq 1001$). Each test case contains an integer **X** ($0 \leq X \leq 1000$).

Output:

For every test case, print number of digits of **X**.

Sample Input

```
2
1
30
```

Sample Output

```
1
2
```

DCP-35: Square Number

You are given a positive integer number n . You have to check, if the number is square of another integer number.

Say a number 'A' is called the square number of 'B' if and only if $A = B * B$. That's why 4 is a square number because $4 = 2 * 2$

Input:

Input starts with an integer **T** ($T \leq 100$), denoting the number of test case. The following **T** line will have a positive integer number **n** ($n \leq 1000$).

Output:

For each test case first print the case number "**Case %d:** " and then print "YES", if the number is square of another integer number, else print "NO".

Sample Input

```
2
3
4
```


DCP-65: Magical Bank

Raju gets a magical bank. Every time bank gives him more than one coin from previous day. 1st day Raju gets 1 coin from bank , 2nd day gets 2 coins , 3rd day gets 3 coins and so on. Raju is a little bit greedy person. He doesn't want to wait anymore. But he had no option!!! At this point, He wants to know how many days; he needs to wait to gather certain number of coins. Can you do it for Raju?

Input:

At first gives you an integer **T** ($T \leq 10000$), is the number of test cases. Each case gives you an integer **X** ($1 \leq X \leq 10000$).

Output:

For every test case, print minimum number of days require for Raju to gather at least **X** coins.

Sample Input

```
2
1
3
```

Sample Output

```
1
2
```

DCP-192: Bicycle

Little Kiron wants to buy a Bicycle but as he is little he don't have much money. Now he went to the cycle shop and form there he will buy a bicycle.

There are N bicycle in the shop of different price. He will buy the cycle which value is the least. But now a days only buying bicycle is not enough it also need maintain cost. So if two bicycle has the least value he will buy that one which have less maintain cost.

Input:

Input starts with an integer **T** ($1 \leq T \leq 20$), denoting the number of test cases. Each case contains an integer **N** ($2 \leq N \leq 1000$) denoting the number of bicycle in the shop. The next N line will contain 2 integers separated by spaces, denoting the price of the cycle and the maintain cost of per month. Each of these integers will be in the range of 64 bit unsigned integer number.

Output:

For each case of input, output the case number starting from 1 and print the value and the maintain cost of the cycle which kiron will buy.

Sample Input

```
1
2
100 10
350 100
```

Sample Output

```
Case 1: 100 10
```

DCP-210: Gabu and the Series

Gabu is very talented boy. He is obsessed with number series. One day his friend Tabu challenged him to solve the following series: 0, 2, 8, 18, 32, 50, 72, 98..... n.

His task is to find nth number of the series.

Input:

Input starts with an integer **T** ($1 \leq T \leq 20$), denoting the number of test cases.

Each case contains an integer **N** ($1 \leq N \leq 1000000$)

Output:

You have to print the Nth number of the above mentioned series.

Sample Input

```
4
5
8
9
100
```

Sample Output

```
32
98
128
19602
```