Total 15 problems || 2000 points || Time: 2:30 Hours

A1	Messi + Ronaldo	Points: 10

Messi is a great player. His skill, attitude, style everything is up to the mark. We can address him as a Goal-Machine. But Ronaldo fans shouldn't be upset or angry with me because of these statements. Ronaldo is also one of the best players in the world. Both of them score dozens of goals in different leagues. In this problem, you will be given two integers (goals scored by Messi and Ronaldo). We are asking you to compute total goals scored by Messi and Ronaldo.

Input: Two integers (A and B < 10000).

Output: Messi + Ronaldo = Total Goals

Sample:

5364 9879	Messi + Ronaldo = 15243

A2	A kipta Bondhu	Points: 60

Here we will talk about a Kipta Bondhu (A miser friend). His name is Pakua and his friends call him Sokhina'r Jamai Pagla Obama. He loves Sokhina a lot, and he is very miser (kipta / kripon). That's why his friends address with this name. Now, when Pakua goes to Tong er Dokan (Local tea stall) with his friends, he never pays a fair amount of bill, he only pays the rest of the amount after his friends contribute equal amount. That means, suppose they are 5 friends. Except Pakua, they are 4. If the bill is 19 Taka, every one of them pays equal, so everyone will pay 4 Taka. So they paid 4x4 = 16 Taka. Now who will pay the rest, 19 - 16 = 3 Taka ? Oh, Pakua will pay this. :) He isn't so bad .

Input: Two integers (A and N < 999). A = Amount of bill, N = Number of friends.

Output: Amount of money that will be paid by Pakua.

Note: Work with only integers. No float or double.

Sample:

15 4 10 3 19 5	0 0 3

A3	Sokhina's boyfriend's age	Points: 40

Sokhina is a beautiful girl. A lot of Mastans / Gunda (gangsters) move around her. But she doesn't respond. She wants a gentleman like you. But the problem is,

the age of her boyfriend has to be an **even number** like 2, 4, 6 , 8 etc. Can you write a program that helps her find a boyfriend ?
Input: One integer (A < 100). A = Age of a boy..
Output: Print **YES** if he can be her dream-boy (boyfriend) Else, print **NO**.
And remember, if the age of the boy is 15 or less, print "**Under Age**" without quote.
Sample:

17 20	NO YES

A4	Shihab and his Ex-girlfriend's Fuska Bill	Points: 30

Shihab and his ex-girlfriend used to have 2 plates of FUSKA every afternoon. Shihab wanted to pay for two of the plates of Fuska but his girlfriend didn't let him do that. She paid for 1 plate and Shihab paid for another one. But as Shihab is a good boy, he always paid for the plate that had higher price. That means, if the prices were 30 and 50 taka, Shihab would pay 50 Taka. But if the prices of the plates were same, they contributed equal.
Now, we are asking you to find out what the price was paid by Shihab when he was with his beautiful girlfriend .
Input: Two integers (A, B < 10000).
Output: Print the amount of money that was paid by Shihab..
Sample:

15 20 20 19 100 99 50 50	20 20 100 50

A5	Shihab and his Ex-girlfriend's Fuska Bill (ii)	Points: 320

In the previous problem you've known a little about Shihab. But do you know what does he do? Okay, he is a **rickshaw puller (Rickshaw driver)**. But as you know he has a beautiful girlfriend named **Alia Bhatt**. You know they used to have a few plates of Fuska everyday. But when it's friday, they have **10 plates of Fuska**. Shihab saves money to spend behind his gf. But she's a good girl.
If we store the prices in an array, the 1st and 10th prices are free (1 based index). Among the rest 8 plates, Shihab pays for 5 plates and Alia for 3 plates. They follow a rule. Shihab always looks for the highest value. If he finds that the 2nd one is higher than 9th one, he pays for the 2nd one, and Alia for 9th one. Then Alia's turn. She does the same as Shihab. They don't break the rule. They never pick up a value from the middle of the **QUEUE**. That means, you must

consider this as a **Double Ended Queue.** But after 3 turns, Shihab's senior brother Reduan Rafi will pay the money for 2 plates. But he has a condition. If the amount is higher than his budget, he'll pay only equal amount of budget, and the rest will be paid by Shihab's rich friend and superstar Sir Ananta Jalil :p.

Now, we are asking you to find out what the price was paid by Shihab in total when he was with his beautiful girlfriend .

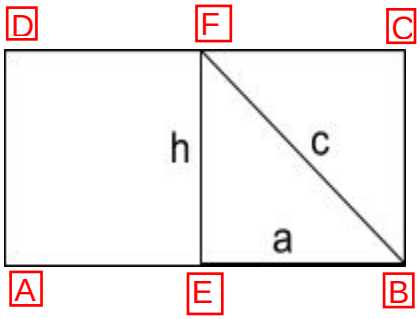
Input: 10 integers; Prices of 10 plates ($P_1, P_2 \ldots\ldots P_n$ < 10000). Then 1 integer, R (Rafi's budget < 1000).

Output: Print the amount of money that was paid by Shihab, Alia, Rafi and Jalil vai.

Sample:

1 2 3 4 5 6 7 8 9 10 3 2 10 4 6 8 1 3 5 3 3 10	Shihab : 31 Alia : 18 Rafi : 3 Jalil : 2 Shihab : 19 Alia : 17 Rafi : 4 Jalil : 0

A6	Triangle inside the Chipa of a rectangle	Points: 100



Have a look at this.

Here, **a = the base of the triangle, h = height**, and c ? You know very well. :) ` a ` is half of AB.

Now, you are given "a" and the area of this triangle.

You have to find out the area of Rectangle ABCD.

Input: Two integers (a, area of triangle EBF < 10000).

Output: Print the area of ABCD.

Sample:

10 100 12.5 68.75 8 28	400.00 275.00 112.00

A7	Molla Nasiruddin and a finite series	Points: 130

We heard the name of Nasiruddin Hujja a great man . One day he went to a village and heard the miseries of villagers; that the king is not kind to them and doesn't like to spend money for the welfare of that villagers. By hearing this Nasiruddin planned to teach the king a good lesion . He then went to the royal palace and

asked for some money for one month as he is not able to beg due to his illness. The king laughed at him and said ok. And asked about the amount of money . Nasir Uddin said only one taka but the king has to double it per day. That means first day 1 taka 2nd day 2 taka 3rd day 4 taka.
It will create a pattern like 1+2+4+8+…
Now Nasir uddin needs help from a programmer to calculate the amount of money in a certain day like 3rd day 4 taka.
Input: Day number. It will be less than 50.
Output: Print the amount of total money along with a string "Taka Only".
Sample: See these samples for clarification. Use long long data type.

5 7 10	16 Taka Only 64 Taka Only 512 Taka Only

B1	**Proposal in front of Bashundhara City Shopping Mall**	**Points: 50**

Shihab , Shohan and Rafi took part in a programming contest. Rafi said to Shihab and Shohan, "If you both can't solve any problem in the contest, you have to propose a girl in front of Bashundhara City Shopping Mall". This was quite embarrassing but they have no option left because they both couldn't solve any problem in the contest. Now, as they are very bad programmer, you have to help them writing a simple code that will assist them to propose their beloved one. Just print "**I love you, X. You are my Jan.**"
Input: Name of the girl Shihab / Shohan loves.
Output: I love you, X. You are my ATM Booth.
Sample:

Alia Jenelia Karina	I love you, Alia. You are my ATM Booth. I love you, Jenelia. You are my ATM Booth. I love you, Karina. You are my ATM Booth.

B2	**CityUni's tuition fee and Boka's mobile bill**	**Points: 300**

Mr. Boka is a regular student of City University. But sometimes he fails to pay the tuition fee in time. For this he has to pay Tk. 500-2500 sometimes. So, then he tries to save some money. As a result he doesn't talk to all of his gfs. He only talks to the girl who uses the number of same operator. <u>If Boka doesn't pay the money within the first 10 days of each month, he has to pay Tk 500 and if he delays 8 days or more he has to pay Tk 2500 extra as late fee.</u>

Note: Don't forget to add Tk 1000 for semester fee and he pays the money in 4 installments. And he must pay some money every month. 1st 3 digits refer to the same operator.
Input: Total tuition fee (1st line),then 6 lines, 2 lines for 1 installment (Money and date), then his number, an integer 'N' (no. of gfs) and at last the numbers of gfs.
Output: Total amount to be paid in the 4th month and number of his gf. Print any if there is multiple solution.
Sample:

15000 10000 11.08.2015 1000 10.09.2015 2000 18.10.2015 0171001 3 0181001 0172015 0168724	6000 0172015

B3	What is Love ?	Points: 120

If you've heard about Sir MA Jalil Ananta you should know "What is love". Let's come to the point. Anyways, The girls of Tanki Baji High School and College are very brilliant. So, students of different schools often fall in love with them. But they are very selective. They prioritize the boys who can propose with maximum flowers. But the limit depends on the name of the girl.
Now, notice that, the letter "A" has the value of 1, B has 2, ….. etc. So, Z = 26.
Then, your task is to Multiply 3 if the value of a letter is a VOWEL, otherwise Multiply 2 and sum up all the values. This is the value of a GIRL's name. Now such amount of flowers are the limit. For an unknown reason you've to subtract the length of the name.
Suppose, the girl's name is: ABE. Length is 3.
So the value will be ,(A*3 + B*2 + E*3) - length = 1*3 + 2*2 + 5*3 - 3 = 19
Input: A string of letters.
Output: Print a single integer.
Sample:

ABE BC	19 8

B4	Khoj the Patree	Points: 400

You are a great software engineer. Now are in quest of a beautiful lady to marry. You just have a single demand. Her name should have a pattern. If the letters in her name can be expressed like, "A" or "a" = 1, "B" or "b" = 2, "C" or "c" = 3 and so on. Then the sum of all letters should be a prime and reverse prime if we reverse the prime. Like, 13 is a prime, 31 is a prime too.
You've to input names of a few ladies and their ages. if any 2 ladies have the same name, count one. If there are multiple ladies who meet that requirement, the lady who is younger will be prioritized.
Input: 1st line, N (No. of names), then N lines (name and age)
Output: Print your wife's name. If no solution print **NO WIFE**.
Sample: For 1st name: 1+13+3 = 17, it's a prime and in reverse order it's 71, also a prime. For 2nd name: 22+1+(26*6) = 179, a prime and 971 also a prime.
Both ladies fulfil the requirement but as **VazzZzzZ** is younger, you will marry her.

2 Amc 23 VazzZzzZ 19	VazzZzzZ

C1	Sort the pots	Points: 120

There are some pots. They have same or different size(s).
Your task is to find the smallest , largest and intermediate size after sorting in nondecreasing order.
Input: One integer N<100 (no. of pots, N is an ODD number). Then N_1 , N_2, N_3 .....
Output: Print the smallest , largest and intermediate size.
Sample:

5 5 8 7 2 1	1 8 5

C2	Jamai Bou Jindabad	Points: 250

Let's directly hit the point.
You will be given a name of a HUSBAND. He may have 1 or more wives and children with them. You have to print how many children he has and the name of the wife who gave birth to maximum number of children. No wife will have equal no. of children. See the sample carefully.
In first line, Shahrukh is the husband, he has 3 wives. Aa has 3, Ba has 5 and Ca has 10 children.

Input: Husband's name. Then N (no. of wives) Then N lines follow. Take input with wife's name and the no. of children she gave birth to.
Output: Print 2 lines for each case as described above.
Sample: Children number will be different in every test case.

Shahrukh 3 Aa 3 Ba 5 Ca 10 Ranveer 2 Katrina 9 Dipika 10	Shahrukh has 18 children. Ca gave birth to 10. Ranveer has 18 children. Dipika gave birth to 10.

D	Shohan vs Shihab	Points: 60

Shohan and Shihab are students of City University. They are very good friends. But they compete often in programming contests. Then they forget about friendship and try to defeat one another. You are given rank list of some contests. Your task is to find who wins.
Input: 5 integers (Only 1 OR 0) for Shohan. And 5 more for Shihab.
One (1) means, a solved problem. 1 0 0 0 1 means, someone solved 2 problems.
Output: Print the name of the winner.
Sample:

1 1 0 1 1 0 0 1 1 1 1 1 0 0 1 1 1 1 1 0	Shohan Shihab

E	Question OUT !!!	Points: 10

Print all the scores of this problem set in ascending order. Like 10 30 …….. But in new line :D Let's sing "Le le le maza le" .

Happy CODING !!!!
Don't believe everything of these problem set.
Everything is created by media. All are rumor , Gujob.