

Problem: Max number

Given 4 integers write a program to find the maximum of the integers. **You cannot use nested if-else or switch-case and logical connectors.**

Sample Input	Sample Output
1 2 3 4	4
4 3 2 1	4
1 5 4 2	5

Problem: Triangle type

Write a program to determine whether a triangle is a right triangle or right isosceles triangle or isosceles triangle. As input, take six real numbers $x_1, y_1, x_2, y_2, x_3, y_3$. Each x_i and y_i correspond to the x and y coordinate of a point respectively. If the given points cannot form a valid triangle you need to print "Invalid triangle."

Sample Input	Sample Output
0 0 0 4 1 0	Right Triangle
0 0 0 2 2 0	Right Isosceles Triangle
0 0 1 -1 1 1	Isosceles Triangle
0 0 0 4 0 5	Invalid Triangle

Problem: Intersection point

In this problem, you are given equations of two lines in the form $aX + bY + c = 0$. You need to output their intersection point (up to 3 digits after fraction point). If they do not intersect, then print "Do not intersect". Your input will be 6 integers. The first 3 integers represent a, b, and c for the first line respectively. The next three integers are the parameters for the second line the same way.

Sample Input	Sample Output
0 1 -5 1 0 -10	Intersection point: 10.000 5.000
2 5 -20 4 10 -44	Do not intersect
-55 0 165 -30 60 -150	Intersection point: 3.000 4.000
-30 60 -150 -15 30 -75	Do not intersect

2 33 49 7 11 59	Intersection point: -6.737 -1.077
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Problem: UCL semi final winner

Assume that two teams, A and B are facing each other at UCL semi final. The semi-final round is played in a two-legged format. That means the teams face each other twice. Once in their home ground and once in the opponent's home ground. The match that takes place in A's(or B's) home ground is called home match for A(or B) and the other match is called away match for A(or B). Now write a program where you will take as input the number of goals scored by each team in each leg and determine who is the winner of the semi-final tie. Your input will contain 4 integers. The first two integers represent A's home goals and B's away goals. The second two integers represent B's home goals and A's away goals. The team that has scored more goals than the other is the winner. In case there is a tie, the team that scored more away goals than the other is the winner.

Sample Input	Sample Output
3 0 4 0	B
3 0 4 1	A
2 0 0 0	A
2 1 1 0	B

Problem: Shopping

Assume that you want to buy some products from a shop. The shop sells only three types of products. They are chocolates, cakes and ice creams. In this problem you will be given the number of each type of items that you want to buy as well as the price of each type of items.

You will have to compute the total amount you need to pay considering the following conditions.

- If you buy more than 4 chocolates you will get a 15% discount on each additional chocolate.
- If you buy more than 3 cakes you will get a 20% discount on each additional cake.

- You will get discount only one type of discount. In case of multiple possible discounts consider the one that results in minimum discount.

The input will contain 6 integers in each line. The first three integers are the number of each type of item you want to buy, the next three integers are the unit price of each type of items. Your program should output the total amount you need to pay.

Sample Input	Sample Output
1 1 1 10 15 20	45
6 1 1 10 15 20	92
6 1 1 10 15 20	111
6 1 1 10 15 20	167
6 6 6 10 15 20	267