

Problem #1 (10 marks)

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

| Sample Input(s) | Corresponding Output(s) |
|-----------------|-------------------------|
| 1 2 3 4 | 3 |
| 4 3 2 1 | 3 |
| 1 5 4 2 | 4 |

Problem #2 (10 marks)

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.

See the following sample input/output:

| Sample Input(s) | Corresponding Output(s) |
|------------------------|-----------------------------------|
| 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 | Donot intersect |
| 2 33 49 7 11 59 | Intersection point: -6.737 -1.077 |