

12-th Bulgarian National Olympiad in Informatics

May 3 and 6, 1996

Problem 5.

Find the intersection of N convex polygons ($1 \leq N \leq 50$).

The **input** file INPUT5 . TXT consists of one or more sets of data. Each row of the file contains a pair of nonnegative integers, separated by one space at least. These integers are coordinates of polygon's vertex. Every data set describes exactly one convex polygon with M vertices ($1 \leq M \leq 50$). The end of any data set is marked by pair -1 -1.

Output file OUTPUT5 . TXT must contain the coordinates of the vertices of the obtained intersection. The vertices must be placed subsequently in the clockwise order, starting from that one having the smallest first coordinate. If there are two or more such vertices, then at first position must be placed that having the smallest second coordinate. Each row of the output file must contain two floating point numbers, each having exactly two digits after the decimal point. These two numbers must be separated by one space exactly. If the intersection is empty then your program must output -1 -1.

Source: Matematika i informatika, journal published by Bulgarian Ministry of Education, n. 4, 1996, pp. 53-54.

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