Problem C

Expression Again

Input: standard input
Output: standard output
Time Limit: 6 seconds

You are given an algebraic expression of the form **(x1+x2+x3+.....+xn)*(y1+y2+.....+ym)** and **(n+m)** integers. You have to find the maximum and minimum value of the expression using the given integers. For example if you are given **(x1+x2)*(y1+y2)** and you are given **1, 2, 3** and **4**. Then maximum value is **(1+4)*(2+3) = 25** whereas minimum value is **(4+3)*(2+1) = 21**.

Input

Each input set starts with two positive integers **N, M (less than 51)**. Next line follows **(N+M)** integers which are in the range of **-50** to **50**. Input is terminated by end of file. There will be atmost **110** testcases.

Output

Output is one line for each case, maximum value followed by minimum value.

Sample Input	Output for Sample Input
2 2 1 2 3 4 3 1 1 2 3 4 2 2 2 2 2 2	25 21 24 9 16 16

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