Problem C
C - AROD
Time Limit: 8 seconds, Memory limit: 2G

Since retiring from a lucrative athletic career, Alex has devoted most of his time to pondering foundational concepts in mathematics. Recently, he has been focusing on the categorization of triangles based on their interior angles, and has invented the acronym AROD to keep track of the four fundamental types:

- **A =** *acute:* all three angles are less than 90 degrees
- **R =** *right:* one angle is 90 degrees
- **O =** *obtuse:* one angle is greater than 90 degrees, but less than 180 degrees
- **D =** *degenerate:* one angle is 180 degrees, or, equivalently, the three vertices are collinear

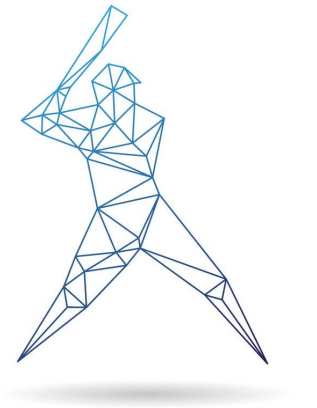


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Alex wonders how often three distinct vertices chosen from a regular grid of x-y points specify a triangle in each of the four AROD categories. More precisely, for positive integers m_x and m_y, he wants to consider all possible ways of choosing three distinct vertices from the set

$$V(m_x, m_y) = \{(x, y) : x \text{ and } y \text{ are integers}, 0 \leq x \leq m_x, 0 \leq y \leq m_y\}$$

and then categorize each of the corresponding triangles into one of the four categories listed above.

Input

The input is a line containing two positive integers, m_x and m_y, satisfying $m_x + m_y \leq 600$.

Output

Output four lines containing the numbers of times three distinct vertices chosen from $V(m_x, m_y)$ specify an acute, right, obtuse, or degenerate triangle, in that order (one number per line).

Sample Input 1	Sample Output 1
1 2	0 14 4 2

Sample Input 2	Sample Output 2
2 3	22 94 84 20