Special Pythagorean triplet

Problem 9 (https://projecteuler.net/problem=9)

A Pythagorean triplet is a set of three natural numbers, $a < b < c$, for which, $a^2 + b^2 = c^2$

For example, $3^2 + 4^2 = 9 + 16 = 25 = 5^2$.

There exists exactly one Pythagorean triplet for which $a + b + c = 1000$. Find the product abc.

Solution

In [1]:
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next(a*b*(1000-a-b) for a in range(1, 1000) for b in range
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Out[1]: 31875000