Category: Medium

Competition: CSI KJSCE Code Wars 2017-18. Try the question in competition environment:

<https://www.hackerrank.com/contests/codewars2-round2/challenges/new-currency-1>

As the question was asked in a competitive coding competition it was solved by many contestants because it is based on the concepts related to GCD which are very well known in competitive coding and are taught in Computer Engineering courses.

Question Analysis:

1. The question is based on mathematical modelling of the situation discussed. It involves conversion of any transaction of currency to a linear equation and then using the property of pulveriser on it.
2. The two difficult parts are to: realize that the problem needs to be modelled mathematically instead of using permutations and combinations; and the use of gcd properties on the mathematical model
3. Property:

If ax + by +cz = p Given: a, b, c, x, y, z are all integers

Then the minimum positive value of p is gcd(x, y, z) when a, b and c can take any integral value.