3) $C_i \geq 2C_{i+1}$ for $i = 2..n$

The greedy algorithm does not always optimally solve the problem.

Assume a system which satisfies the above but not all valuations are equal integer multiples of each other.

eg: 140, 70, 35, 15, 1

60 would result in 1-35, 1-15, 10-1 12 coins
OPTIMAL would be 4-15 4 coins

the key is when the value is a multiple of a smaller amount which is multiple of the smallest amount

another could be

59, 27, 13, 1

Change for 39 ;

Greedy 1-27, 12-1 13 coins
OPTIMAL 3-13 3 coins