

- Two people want to withdraw  $\text{€}n \leq 10\,000$  from a cash machine.
- Machine can dispense coins and notes of values  $\text{€}1$ ,  $\text{€}2$ ,  $\text{€}5$ ,  $\text{€}10$ ,  $\text{€}20$ ,  $\text{€}50$ ,  $\text{€}100$ ,  $\text{€}200$ , and  $\text{€}500$ .
- Check if there exists a way of dispensing  $\text{€}n$  that cannot be split evenly into two piles of  $\text{€}n/2$ .
- Output the coins and notes dispensed such that they cannot be split evenly, or report that the split is always possible.



For  $n = 52$ , the machine could dispense  
a  $\text{€}50$  note and  $\text{€}2$  coin.

Photo by Jeroen Op de Beek