

860 Lemonade Change - 15/08/2024 (easy)

860. Lemonade Change

Easy

Topics

Companies

At a lemonade stand, each lemonade costs $\$5$. Customers are standing in a queue to buy from you and order one at a time (in the order specified by `bills`). Each customer will only buy one lemonade and pay with either a $\$5$, $\$10$, or $\$20$ bill. You must provide the correct change to each customer so that the net transaction is that the customer pays $\$5$.

Note that you do not have any change in hand at first.

Given an integer array `bills` where `bills[i]` is the bill the i^{th} customer pays, return `true` if you can provide every customer with the correct change, or `false` otherwise.

Example:- `bills = {5, 5, 5, 10, 20}` 5
5
1
Output = True

Example:- `bills = {5, 5, 5, 10, 20}` ~~5~~
5
~~5~~
~~10~~
Output = True

`bills = {5, 5, 10, 10, 20}` 5
5
Output = False

$\{\underline{5}, \underline{5}, \underline{5}, \underline{10}, 20\}$

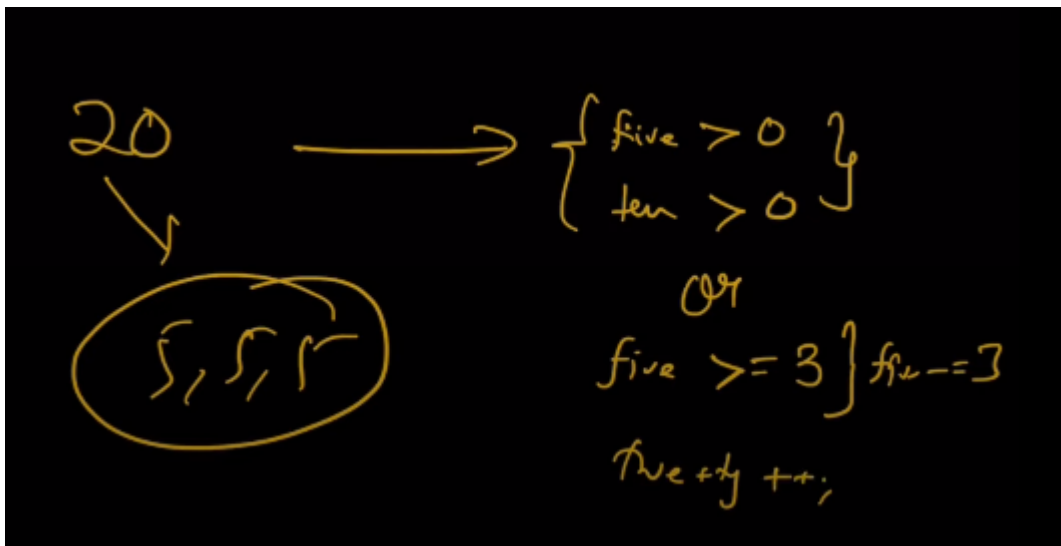
$10 \xrightarrow{-5} (5)$

$five = 1 + 1 + 1$

$20 \xrightarrow{-5} 5, 5, 5$
 $\quad \quad \quad \rightarrow 10, 5$

$5 \longrightarrow five++;$

$10 \longrightarrow five--;$
 $\quad \quad \quad ten++;$



Strategy to solve

if customer pay 5 dollar
just increment five variable

if customer pay 10 dollar then
first check if variable 5 is > 0
just decrement five variable else $5 - -$
and increment 10 variable else $\text{ten} ++$

if customer pay 20 dollars then
then follow two method to solve
first check it is above $\text{five} > 0$ and $\text{ten} > 0$
then decrement five and ten

another method check is variable five is ≥ 3
then decrement by 3

Organize wy

- **\$5 payment:** Increment the count of \$5 bills.
- **\$10 payment:**

- If a \$5 bill is available, use it.
- Otherwise, use a \$10 bill.
- **\$20 payment:**
 - If both \$5 and \$10 bills are available, use one of each.
 - If there are at least three \$5 bills, use three of them.
- **Invalid payment:** Handle payments that are not \$5, \$10, or \$20.

Code

```
class Solution {
public:
    bool lemonadeChange(vector<int>& bills) {
        int five = 0;
        int ten = 0;
        for(int &bill : bills){
            if(bill==5){
                five++;
            }
            else if(bill==10){
                if(five>0){
                    five--;
                    ten++;
                }
                else{
                    return false;
                }
            }
            else if(bill==20){
                if(five>0 && ten>0){
                    five--;
                    ten--;
                }
                else if(five>=3){
                    five-=3;
                }
                else{
                    return false;
                }
            }
        }
        return true;
    }
};
```

```
        {  
            return false;  
        }  
    }  
    return true;  
}  
};
```