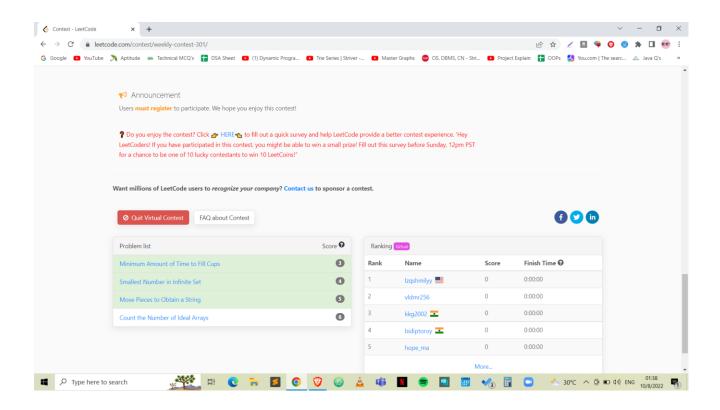
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LeetCode Weekly Contest 301 Week 1

In this contest, I solved 3/4 questions and got a rank of 3433 / 23566



The questions that I've solved are below:

- 1) Minimum Amount of Time to Fill Cups
- 2) Smallest Number in Infinite Set
- 3) Move Pieces to obtain a string

1) Minimum Amount of Time to Fill Cups

```
class Solution {
public:
  int fillCups(vector<int>& amount) {
     priority_queue<int> pq;
     for(auto x : amount){
        if(x != 0){
          pq.push(x);
        }
     }
     int ans = 0;
     while(pq.size() > 0){}
        if(pq.size() == 1){
          int x = pq.top();
          pq.pop();
          ans += x;
        }
        else{
          int a = pq.top();
          pq.pop();
          int b = pq.top();
          pq.pop();
          a--;
          b--;
          if(a > 0){
```

```
pq.push(a);
}

if(b > 0){
    pq.push(b);
}

ans++;
}

return ans;
}
```

2) Smallest Number in Infinite Set

```
class SmallestInfiniteSet {
public:
    set<int> s;
    SmallestInfiniteSet() {
        s.clear();
        for(int i=1;i<=1000;i++){
            s.insert(i);
        }
    }
    int popSmallest() {
        int smallest = *s.begin();
        s.erase(smallest);
        return smallest;
    }</pre>
```

```
void addBack(int num) {
    s.insert(num);
}
```

3) Move Pieces to Obtain a String

```
class Solution {
public:
   bool canChange(string start, string target) {
     int n = target.length();
     int m = start.length();
     int a = 0, b = 0, i = 0, j = 0;
     while(i < n \text{ and } j < n){
        while(i < n and target[i] == '_') i++;
        while(j < n and start[j] == '_') j++;
        if(i == n || j == n){}
           return i == n and j == n;
        }
        if(target[i] != start[j]) return false;
        if(target[i] == 'L'){
           if(j < i) return false;
        }
        else{
           if(i < j) return false;
        }
```

```
i++;
j++;
}

while(i < n and target[i] == '_') i++;
while(j < n and start[j] == '_') j++;
return i == n and j == n;
}
};</pre>
```