**#include <bits/stdc++.h>**

**using namespace std;**

**#define MAX 1000000000**

**#define MIN -1e9**

**int findMedian(vector<vector<int>>&arr, int start, int end) {**

**int ans = start;**

**while(end >= start) {**

**int mid = (start + end)/2;**

**int n = arr.size();**

**int m = arr[0].size();**

**int cntElements = 0;**

**int needCnt = (m \* n)/2;**

**for(int i=0; i < n;i++) {**

**cntElements += (lower\_bound(arr[i].begin(), arr[i].end(), mid) - arr[i].begin());**

**}**

**if(cntElements <= needCnt) {**

**ans = max(mid, ans);**

**start = mid + 1;**

**} else if (cntElements > needCnt) {**

**end = mid - 1;**

**}**

**}**

**return ans;**

**}**

**int cntPainters(vector<int>&painters, int time) {**

**int n = painters.size();**

**int cnt = 0;**

**int curSum = 0;**

**for(int i=0;i<n;i++){**

**if(curSum + painters[i] > time) {**

**cnt++;**

**curSum = painters[i];**

**} else {**

**curSum += painters[i];**

**}**

**}**

**cnt++;**

**return cnt;**

**}**

**int main() {**

**cout<<"Hello I am starting"<<endl;**

**/\* int n, m;**

**cin>>n>>m;**

**vector<vector<int>>arr(n);**

**int mx = 0, mn = MAX;**

**for(int i=0;i<n;i++){**

**vector<int>temp(m);**

**for(int j=0;j<m;j++){**

**cin>>temp[j];**

**mx = max(mx, temp[j]);**

**mn = min(mn, temp[j]);**

**}**

**arr[i] = temp;**

**}**

**int median = findMedian(arr, mn, mx);**

**cout<<"The median of the array is: "<<median<<endl;\*/**

**/\*int n;**

**cin>>n;**

**vector<int>arr(n);**

**for(int i=0;i<n;i++){**

**cin>>arr[i];**

**}**

**int toPropogate = 0;**

**int ans = MIN;**

**for(int i=0;i<n;i++){**

**ans = max(ans, arr[i] + max(0, toPropogate));**

**if(toPropogate > 0) {**

**toPropogate += arr[i];**

**} else {**

**toPropogate = arr[i];**

**}**

**}**

**cout<<ans<<endl;\*/**

**// Painter Partition Problem**

**int n, k;**

**cin>>n>>k;**

**vector<int>tiles(n);**

**int mn = MIN, mx = 0;**

**for(int i=0;i<n;i++){**

**cin>>tiles[i];**

**mn = max(tiles[i], mn);**

**mx += tiles[i];**

**}**

**int start = mn, end = mx;**

**int ans = end;**

**while(end >= start) {**

**int mid = (start + end)/2;**

**int painters = cntPainters(tiles, mid);**

**if(painters <= k){**

**ans = mid;**

**end = mid - 1;**

**} else {**

**start = mid + 1;**

**}**

**}**

**cout<<"The min time required will be: "<<ans<<endl;**

**}**