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

**#include <climits>**

**using namespace std;**

**int main() {**

**int n, m;**

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

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

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

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

**}**

**sort(arr.begin(), arr.end());**

**reverse(arr.begin(), arr.end());**

**int curOp = 1;**

**queue<int>q;**

**int curPos = 0;**

**while(m--) {**

**int query;**

**cin>>query;**

**int ans;**

**for(;curOp <= query; curOp++) {**

**if(q.empty() or (curPos < n and arr[curPos] >= q.front())) {**

**ans = arr[curPos++];**

**} else {**

**ans = q.front();**

**q.pop();**

**}**

**q.push(ans/2);**

**}**

**cout<<ans<<endl;**

**}**

**return 0;**

**}**