#include<iostream>

#include<map>

#include<set>

#include<vector>

using namespace std;

int main(){

int SoDinh, SoCanh;

cin >> SoDinh >> SoCanh;

vector<vector<int>> graph(SoDinh, vector<int> (SoDinh, 0));

map<string, set<int>> graph1;

map<string, int> TenDinh;

string name, name1;

for(int i=0; i<SoDinh; i++){

cin>> name;

TenDinh[name]=i; // insert

}

for(int i=0; i<SoCanh; i++){

cin >> name >> name1;

graph[TenDinh[name]][TenDinh[name1]]=1;

// graph1[name].insert(name1);

}

for (int i = 0; i < SoDinh; i++){

for (int j = 0; j < SoDinh; j++){

cout << graph[i][j] << " ";

}

cout << endl;

}

string u;

cin >> u;

int x = TenDinh[u];

for(int i = 0; i < SoDinh; i++)

{

if(graph[x][i] != 0)

for(auto it : TenDinh)

if(it.second == i)

cout << it.first << " "; ket thuc

}

}