#include<bits/stdc++.h>

using namespace std;

vector<vector<int> > graph;

void topo\_dfs(int src, vector<bool> &visited, stack<int> &st){

visited[src] = true;

for(auto x: graph[src]){

if(visited[x]==false){

topo\_dfs(x,visited,st);

}

}

st.push(src);

}

int main(){

int n;

int e;

cin>>n>>e;

graph.resize(n);

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

int x,y;

cin>>x>>y;

graph[x].push\_back(y);

}

vector<bool> visited(n,false);

vector<int> indeg(n,0);

for(int i=0;i<graph.size();i++){

for(auto x: graph[i]){

indeg[x]++;

}

}

for(auto x: indeg){

cout<<x<<" ";

}

cout<<endl;

vector<int> outdeg(n,0);

for(int i=0;i<graph.size();i++){

int count = 0;

for(auto x: graph[i]){

count++;

}

outdeg[i] = count;

}

bool flag = true;

for(auto x: outdeg){

cout<<x<<" ";

}

for(auto x: outdeg){

if(x==0){

flag = false;

}

}

cout<<endl;

if(flag){

cout<<"true";

}

else{

cout<<"false";

}

}