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#include <stdio.h>
#include <stdbool.h>
#define MAX_VEX 50

typedef struct node *node_ptr;
typedef struct node {
    int vertex;
    node_ptr link;
}node;

typedef struct{
    int vexnum ; /* number of nodes */
    node AdjList[MAX_VEX] ;
}ALGraph;

ALGraph *G;
int n = G->vexnum;
bool visited[MAX_VEX];
int time, cnt;
int parent[MAX_VEX];
int start[MAX_VEX],end[MAX_VEX];
int topoSort[MAX_VEX];

void topological_sort(){
    cnt = 0;
    for(int i = 1; i <= n; i++){
        parent[i] = -1
        visited[i] = false;
    }
    time = 0;
    for(int i = 1; i <= n; i++){
        if(!visited[i])
            DFS(G,i);
    }
    for(int i = cnt -1; i >= 0; i--){
        printf("%d",topoSort[i]);
    }
}

void DFS(ALGraph *G, int v){
    node *p;
    visited[v] == true;
    time++;
    start[v] = time;
    p = G->AdjGraph[v].link;
    while(p != NULL){
        if (!visit[p->vertex]){
            parent[p->vertex] = v;

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        DFS(G, p->vertex);
    }
    p = p->link;
}
time++;
end[v] = time;
topoSort[cnt++] = v;
}
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