



```

#include <stdio.h>
#define MAXNODES 100
int graph[MAXNODES][MAXNODES], n; /** Number of vertices/nodes ***/
int stack[MAXNODES],stack_cnt=0, start_node;
int visited[MAXNODES]={0}; /** 0:not visited; 1:in stack; 2:displayed**/

void DFS( )
{
int i;
printf("%d\t",start_node);
visited[start_node]=2;
for(i=0;i<n;i++)
{
    if(graph[start_node][i]!=1&&!visited[i])
    {
        stack[stack_cnt++]=i;
        visited[i]=1;
    }
}

if(stack_cnt!=0)
{
    start_node=stack[--stack_cnt];
    DFS( );
}
else /* for disconnected portion */
{
    for(i=0;i<n;i++)
        if(visited[i]==0)
        {
            start_node=i;
            DFS( );
        }
}
}
}

```

```
void main( )
{
int i,j;
printf("Feed in the number of nodes ");
scanf("%d",&n);
printf("Feed in the adj. matrix\n");
for (i=0;i<n;i++)
    for(j=0;j<n;j++)
        scanf("%d",&graph[i][j]);

start_node=0;
DFS( );
}
```

