**PROG 5**

#include<stdio.h>

voidfindindegree(int[10][10],int[10],int);

void topological(int,int [10][10]);

voidmain()

{

inta[10][10],i,j,n;

printf("Enterthenumberofnodes:");scanf("%d",&n);

printf("\nEnter the adjacency matrix\n");

for(i=1;i<=n;i++)

for(j=1;j<=n;j++)

scanf("%d",&a[i][j]);

printf("\nTheadjacencymatirxis:\n");for(i=1;i<=n;i++)

{

for(j=1;j<=n;j++)

{

printf("%d\t",a[i][j]);

}

printf("\n");

}

topological(n,a);

}

voidfindindegree(inta[10][10],intindegree[10],intn)

{

inti,j,sum;for(j=1;j<=n;j++)

{

sum=0;for(i=1;i<=n;i++)

{

sum=sum+a[i][j];

}

indegree[j]=sum;

}

}

voidtopological(intn,inta[10][10])

{

intk,top,t[100],i,stack[20],u,v,indegree[20];k=1;

top=-1; findindegree(a,indegree,n);

for(i=1;i<=n;i++)

{

if(indegree[i]==0)

{

stack[++top]=i;

}

}

while(top!=-1)

{

u=stack[top--];t[k++]=u;

for(v=1;v<=n;v++)

{

if(a[u][v]==1)

{

indegree[v]--;

if(indegree[v]==0)

{

stack[++top]=v;

}

}

}

}

printf("\nTopologicalsequenceis\n");for(i=1;i<=n;i++)

printf("%d\t",t[i]);

}