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Topological ordering of vertices

```
#include <stdio.h>
#include <stdlib.h>
 int a[10][10], n, indegree[10];
  void find_indegree()
{ int j, i, sum;
  for(j=0; j<n; j++)
 {
   sum = 0
  for(i=0; i<n; j++)
  sum+ = a[i][j];
  indegree[j] = sum;
  }
  }
   int topology()
  {
   int
  i, u, v, t[10], s[10], top = -1, k = 0;
  find_indegree();
  for(i=0; j<n; i++)
 {
 if(indegree[i] == 0)  s[++top] = i;
}
 while(top != -1)
{
```

```
u = s [top -- ];
t [k++] = u;
for(v=0 ; v<n ; v++)
{
 if (a[u][v] == 1)
{
 indegree [v] --;
 if (indegree[v] == 0)  s [++top] = v ;
 }
}
}
printf ("The Topological sequence is : \n");
 for(i=0 ; i<n ; i++)
 printf ("%d", t[i]);
 }
 void main ()
{
 int i, j ;
 printf("Enter no. of vertices : ");
 scanf ("%d", &n);
printf("\n Enter the adjacency matrix :\n");
 for (i= 0; i<n; i++)
 {
 for (j = 0 ; j <n ; j++)
 scanf ("%d", &a [i][j];
 }
  topology ();
 }
```

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ADA LAB TEST-1

~~Topological ordering of vertices~~ Source Removal (Modification)

```
#include <stdio.h>
 int temp[10], k=0

void topo(int n, int degree[10], int a[10][10])
{
 int i, j;
 for(i=1; i<=n; i++)
 {
   if(indegree[i]==0)
   {
    indegree[i]=1;
    temp[++k]=i;
       for(j=1; j<=n; j++)
     {
      if(a[i]
[j]==1 && indegree[j]!=-1)
                indegree[j]--;
            }
            i=0;
   }
}
}
void main()
{
 int i, j, n, indegree[10], a[10][10];
 printf("Enter the number of vertices:");
 scanf("%d", &n);
```

```
for (i = 1 ; i <= n ; i++)
indegree [i] = 0 ;
printf ("\n enter the adjacency matrix \n");
  for (i = 1 ; i <= n ; i++)
  for (j = 1 ; j <= n ; j++)
{
  scanf ("%d", &a [i][j]);
   if (a [i][j] == 1)
   indegree [j]++ ;
}
   topo (n, indegree, a);
   if (k != n)
   printf ("Topological ordering is not possible \n");
   else
  {
   printf ("\n Topological ordering is : \n");
    for (i = 1 ; i <= k ; i++)
   printf ("v %d \t", temp [i]);
  }
}
```