ADA - Lab - Test 1

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Write a program to obtain the Topological ordering of vertices in a given digraph

Code

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

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```
}
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;
clrscr();
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();
getch();
}
```