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

Code:

```
#include<stdio.h>
#include<conio.h>


void main(){
    int a[10][10],n,i,j;
    int indeg[10],flag[10],c=0;

    printf("Enter number of vertices \n");
    scanf("%d",&n);

    printf("Enter adjacency matrix: \n");
    for(i=0;i<n;i++)
    for(j=0;j<n;j++)
    scanf("%d",&a[i][j]);

    for(i=0;i<n;i++)
    indeg[i]=0;

    for(i=0;i<n;i++)
    flag[i]=0;

    for(i=0;i<n;i++)
    for(j=0;j<n;j++)
    if(a[i][j]==1)
    indeg[j]+=1;

    printf("Order is : ");
    while(c<=n)
    {
        for(i=0;i<n;i++)
        {
            if(indeg[i]==0 && flag[i]==0)
            {
                printf("%d  ",i+1);
                flag[i]=1;
            }
        }
        for(i=0;i<n;i++)
        {
            if(flag[i]==1)
            {
```

```
                    for(j=0;j<n;j++)
                    {
                        if(a[i][j]==1)
                        {
                            indeg[j]-=1;
                            a[i][j]=0;
                        }
                    }
                }
            }
            c++;
        }
}
```

Output:

```
PS D:\VS Code\OS> cd "d:\VS Code\OS\" ; if ($?) { gcc ada.c -o ada } ; if ($?) { .\ada }
Enter number of vertices
5
Enter adjacency matrix:
0 0 1 0 0
0 0 1 0 0
0 0 0 1 1
0 0 0 0 1
0 0 0 0 0
Order is : 1  2  3  4  5
```

Observation :

22-06-...

Write program to obtain topological Ordering of ver... in given digraph.

```
#include <stdio.h>

void main()
{
    int a[10][10], n, i, j;
    int indeg[10], flag[10], c=0;

    printf("Enter number of vertices \n");
    scanf("%d", &n);

    printf("Enter adjacency matrix: \n");
    for(i=0; i<n; i++)
    for(j=0; j<n; j++)
    scanf("%d", &a[i][j]);
    for(i=0; i<n; i++)
    {
        indeg[i]=0;
        flag[i]=0;
    }

for(i=0; i<n; i++)
for(j=0; j<n; j++)
if(a[i][j]==1)
    indeg[j]+=1;

printf("Order is: ");
while(c<=n)
{
    for(i=0; i<n; i++)
    {
        if(indeg[i]==0 && flag[i]==0)
        {
            printf("%d ", i+1);
            flag[i]=1;
        }
    }
    c++;
}
```

```
for(i=0;
{
    if(a
    {
    }
}
```

Output:

```
Enter numbe
5
Enter adjacen
0 0 1 0 0
0 0 1 0 0
0 0 0 1 1
0 0 0 0 1
0 0 0 0 0
Topological
```

```
        for (i=0; i<n; i++)
        {
            if (flag [i] == -1)
            {
                for (j=0; j<n; j++)
                {
                    for(j=0; i<n; j++)
                    {
                        if(a[i][j]==-1)
                        {
                            indeg[j]--;
                            a[i][j]=0;
                        }
                    }
                }
            }
            cnt++;
        }
    }
```

Output:

```
Enter number of nodes
5
Enter adjacency matrix.
0 0 1 0 0
0 0 1 0 0
0 0 0 1 1
0 0 0 0 1
0 0 0 0 0
Topological order: 2 1 3 4 5.
```