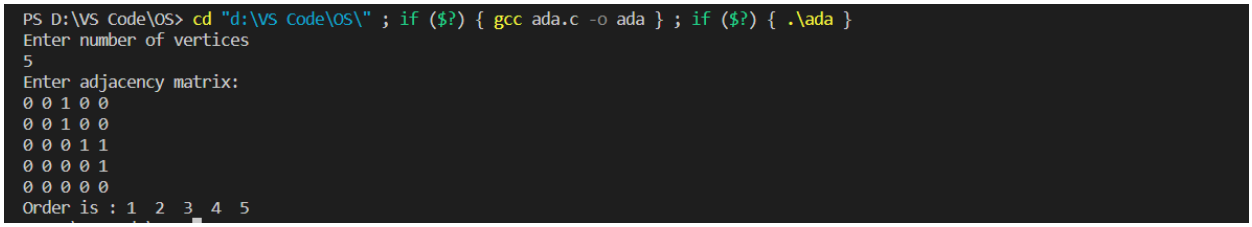
2. Write program to obtain the Topological ordering of vertices in a given digraph.

Code:

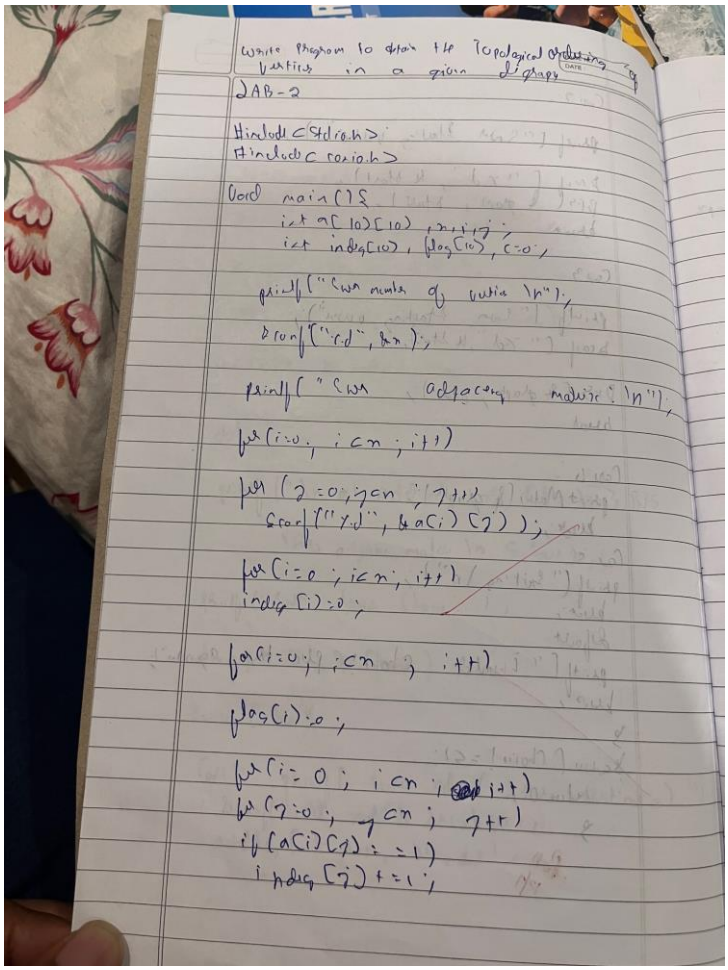
```
#include<stdio.h>
#include<conio.h>


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:



Observation :

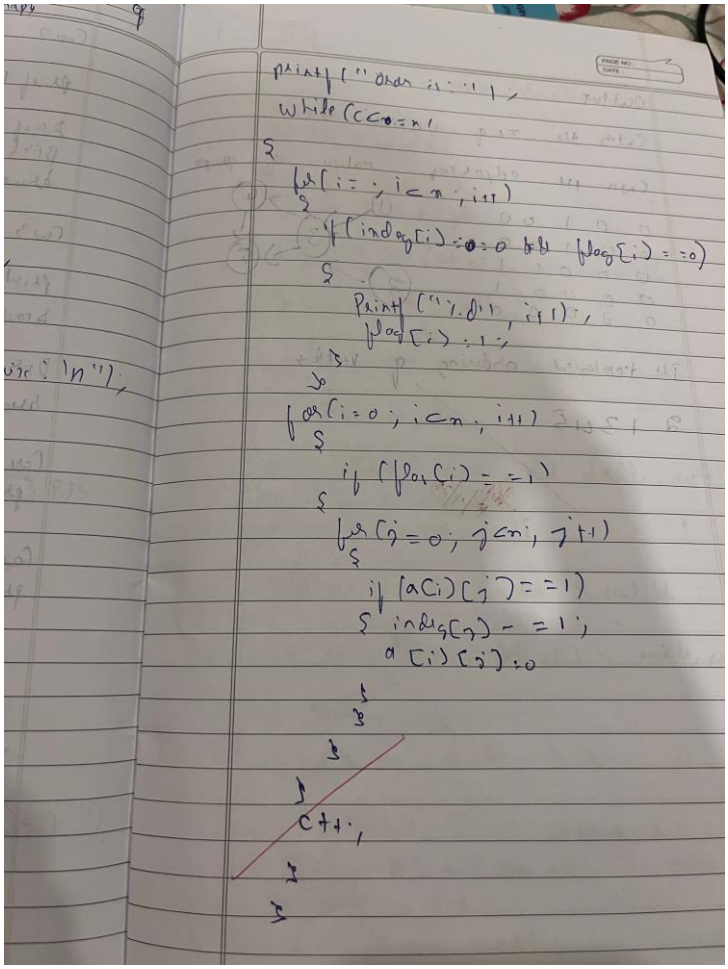


Write program to obtain the Topological Ordering of vertices in a given digraph

DATE

2AB-2

```
#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]++;
```

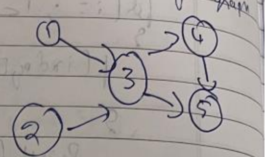


```
printf("order is:");
while(c<n)
{
for(i=0;i<n;i++)
{
if(indeg[i]==0 && flag[i]==0)
{
printf("%d",i+1);
flag[i]=1;
}
}
for(i=0;i<n;i++)
{
if(flag[i]==1)
{
for(j=0;j<n;j++)
if(a[i][j]==1)
{indeg[j]--;
a[i][j]=0
}
}
c++;
}
}
```

Output

Enter the no of vertices: 5

Enter the adjacency matrix of graph



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

The topological ordering of vertices

2 1 3 4 5