

## OUTPUT FOR TOPOLOGICAL SORT

The screenshot shows two instances of the OnlineCCompiler interface. The top instance displays the program's output, which includes the code itself, the command to run it, and the resulting terminal output. The bottom instance shows the user interacting with the program by entering vertex counts and adjacency matrices.

**Top Window Output:**

```
#include <stdio.h>
int main(){
    int i,j,k,n,count=0;
    printf("Enter the no of vertices:\n");
    scanf("%d",&n);
    int a[n][n],indeg[n],flag[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++)
            indeg[i]=indeg[i]+a[j][i];
    printf("Printing Indeg of adjacent matrix:\n");
    for(i=0;i<n;i++)
        for(j=0;j<n;j++)
            printf("%d\t",indeg[j]);
    printf("\nThe topological order is:");
    while(count<n){
        for(k=0;k<n;k++){
            if((indeg[k]==0) && (flag[k]==0)){
                printf("\n%d",k+1);
                flag[k]=1;
                count++;
            }
        }
    }
    return 0;
}
```

**Bottom Window Interaction:**

```
The topological order is:  
...Program finished with exit code 0  
Press ENTER to exit console.
```

**User Input:**

```
Enter the no of vertices:  
3  
Enter the adjacency matrix:  
Enter row 1  
1  
2  
3  
Enter row 2  
1  
2  
3  
Enter row 3  
1  
2  
3  
Printing Indeg of adjacent matrix:  
3 6 9  
The topological order is:  
...Program finished with exit code 0  
Press ENTER to exit console.
```

## CODE FOR TOPOLOGICAL SORT

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

```
int main(){
```

```
int i,j,k,n,count=0;
```

```

printf("Enter the no of vertices:\n");
scanf("%d",&n);

int a[n][n],indeg[n],flag[n];

printf("Enter the adjacency matrix:\n");

for(i=0;i<n;i++){

printf("Enter row %d\n",i+1);

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++)

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

printf("Printing Indeg of adjacent matrix:\n");

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

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

printf("\nThe topological order is:");

while(count<n){

for(k=0;k<n;k++){

if((indeg[k]==0) && (flag[k]==0)) {

printf("%d ",(k+1));

flag [k]=1;

}

for(i=0;i<n;i++){

if(a[i][k]==1){

indeg[k]--;
}
}
}
}

```

```
    }  
    }  
    }  
    count++;  
}  
return 0;  
}
```