

5) Obtain the Topological ordering of vertices in a given digraph.

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

```
int a[10][10], n, indegree[10];
```

```
void find_indegree() {  
    int j, i, sum;  
    for (j = 1; j <= n; j++) {  
        sum = 0;  
        for (i = 1; i <= n; i++)  
            sum += a[i][j];  
        indegree[j] = sum;  
    }  
}
```

```
void topology() {  
    int i, u, v, t[10], s[10], top = -1, k = 0;  
    find_indegree();  
    for (i = 1; i <= n; i++) {  
        if (indegree[i] == 0)  
            s[++top] = i;  
    }  
    while (top != -1) {  
        u = s[top--];  
        t[k++] = u;  
        for (v = 1; 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 = 1; i <= n; i++)  
        printf("%d ", t[i]);  
}
```

```
int main() {  
    int i, j;  
    printf("Enter the number of jobs:");  
    scanf("%d", &n);  
    printf("\nEnter the adjacency matrix:\n");  
  
    for (i = 1; i <= n; i++) {  
        for (j = 1; j <= n; j++)  
            scanf("%d", &a[i][j]);  
    }  
  
    topology();  
  
    return 0;  
}
```

```
Enter number of jobs:6  
  
Enter the adjacency matrix:  
0 0 0 1 1 1  
1 0 0 1 1 0  
0 0 0 0 1 1  
0 0 0 0 0 0  
0 0 0 0 0 0  
0 0 0 0 1 0  
The topological Sequence is:  
3 2 1 6 5 4
```