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

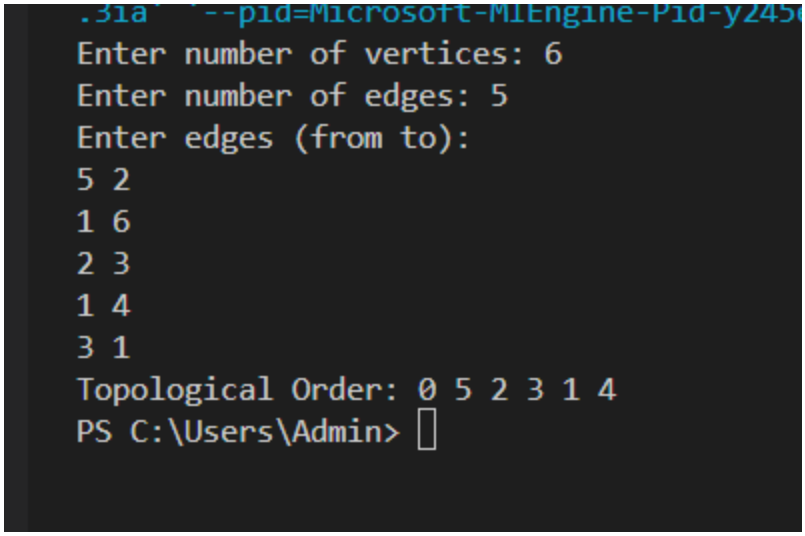
```
#include <stdio.h>
```

```
#include <stdlib.h>



#define MAX 100



int main() {

    int n, e;

    printf("Enter number of vertices: ");

    scanf("%d", &n);

    printf("Enter number of edges: ");

    scanf("%d", &e);



    int adj[MAX][MAX] = {0};

    int indegree[MAX] = {0};



    printf("Enter edges (from to):\n");

    for (int i = 0; i < e; i++) {
```

```
        int u, v;
        scanf("%d %d", &u, &v);
        adj[u][v] = 1;
        indegree[v]++;
    }

    int queue[MAX], front = 0, rear = 0;

    for (int i = 0; i < n; i++) {
        if (indegree[i] == 0)
            queue[rear++] = i;
    }

    int count = 0;
    printf("Topological Order: ");
    while (front < rear) {
        int u = queue[front++];
        printf("%d ", u);
        count++;
```

```
        for (int v = 0; v < n; v++) {
            if (adj[u][v]) {
                indegree[v]--;
                if (indegree[v] == 0)
                    queue[rear++] = v;
            }
        }
    }
    printf("\n");

    if (count != n)
        printf("Cycle detected! Topological ordering not possible.\n");

    return 0;
}
```

OUTPUT


.31a" "--pid=Microsoft-MIEngine-Pid-y245
Enter number of vertices: 6
Enter number of edges: 5
Enter edges (from to):
5 2
1 6
2 3
1 4
3 1
Topological Order: 0 5 2 3 1 4
PS C:\Users\Admin>