topological_sorting.c ● bfs_nodes.c ×

bfs_nodes.c

```c
/*Write a program to print all the nodes reachable from a given starting node in a digraph using the BFS method. */
#include <stdio.h>
int a[10][10],vis[10],n;
void bfs(int v)
{
    int q[10],f=0,r=0,u,i;
    vis[v]=1;
    q[r]=v;
    while (f<=r)
    {
        u=q[f];
        printf("%d ",(u+1));
        for (i=0;i<n;i++)
        {
            if (a[u][i]==1 && vis[i]==0)
            {
                vis[i]=1;
                r=r+1;
                q[r]=i;
            }
        }
        f=f+1;
    }
}
int main()
{
    int i,j,src;
    printf("Enter the number of vertices:\n");
    scanf("%d",&n);
    printf("Enter the 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++)
```

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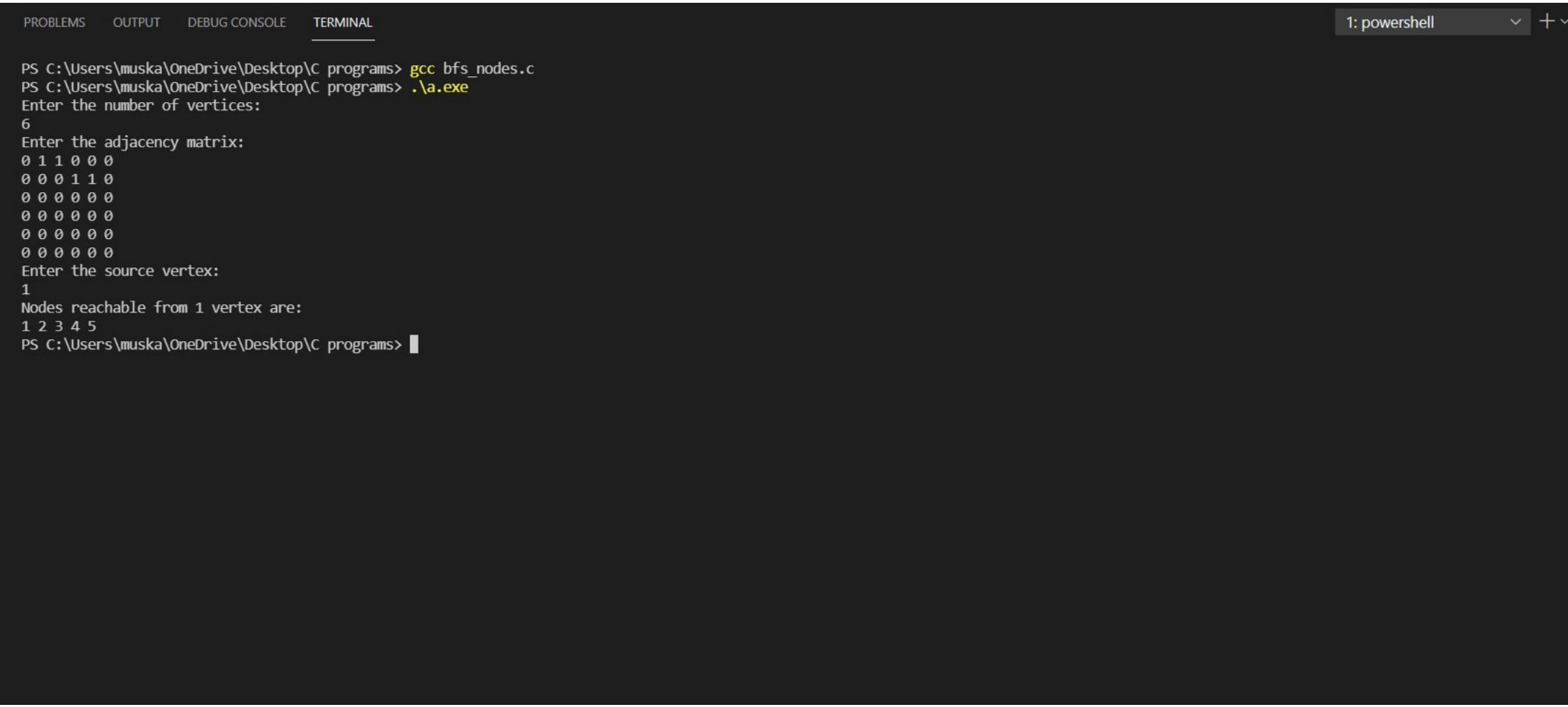
```c
}
int main()
{
    int i,j,src;
    printf("Enter the number of vertices:\n");
    scanf("%d",&n);
    printf("Enter the adjacency matrix:\n");
    for (i=0;i<n;i++)
    {
        for (j=0;j<n;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for (i=0;i<n;i++)
    {
        vis[i]=0;
    }
    printf("Enter the source vertex:\n");
    scanf("%d",&src);
    printf("Nodes reachable from %d vertex are:\n",src);
    bfs(src-1);
    return 0;
}
```


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
1: powershell
PS C:\Users\muska\OneDrive\Desktop\C programs> gcc bfs_nodes.c
PS C:\Users\muska\OneDrive\Desktop\C programs> .\a.exe
Enter the number of vertices:
6
Enter the adjacency matrix:
0 1 1 0 0 0
0 0 0 1 1 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
0 0 0 0 0 0
Enter the source vertex:
1
Nodes reachable from 1 vertex are:
1 2 3 4 5
PS C:\Users\muska\OneDrive\Desktop\C programs>