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Course Code: CSE-0408

Course Name: Artificial Intelligence lab

Semester: Summer 2021

Submitted to:

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Question: Write a program about BFS implementation in any language [C, C++, JAVA, PYTHON]

Solution:

```
#include <iostream>
#include<conio.h>
#include<stdlib.h>
#include <bits/stdc++.h>

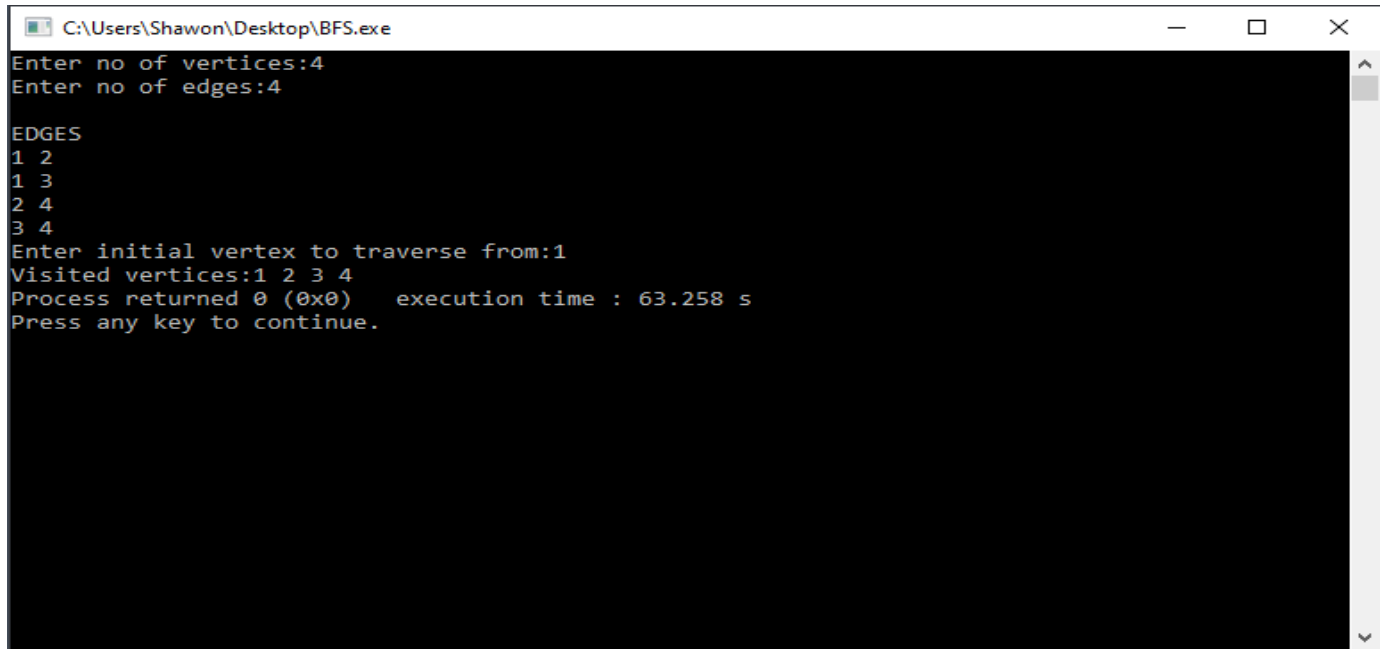
using namespace std;
int c[10][10],i,j,k,n,q[10],front,rare,v,visit[10],visited[10];
int main()
{
    int m;
    cout <<"Enter no of vertices:";
    cin >> n;
    cout <<"Enter no of edges:";
    cin >> m;
    cout <<"\nEDGES \n";
    for(k=1; k<=m; k++)
    {
        cin >>i>>j;
        c[i][j]=1;
    }

    cout <<"Enter initial vertex to traverse from:";
    cin >>v;
    cout <<"Visited vertices:";
    cout <<v<<" ";
    visited[v]=1;
    k=1;
    while(k<n)
    {
        for(j=1; j<=n; j++)
            if(c[v][j]!=0 && visited[j]!=1 && visit[j]!=1)
            {
                visit[j]=1;
                q[rare++]=j;
            }
        v=q[front++];
    }
```

```
        cout<<v <<" ";
        k++;
        visit[v]=0;
        visited[v]=1;
    }

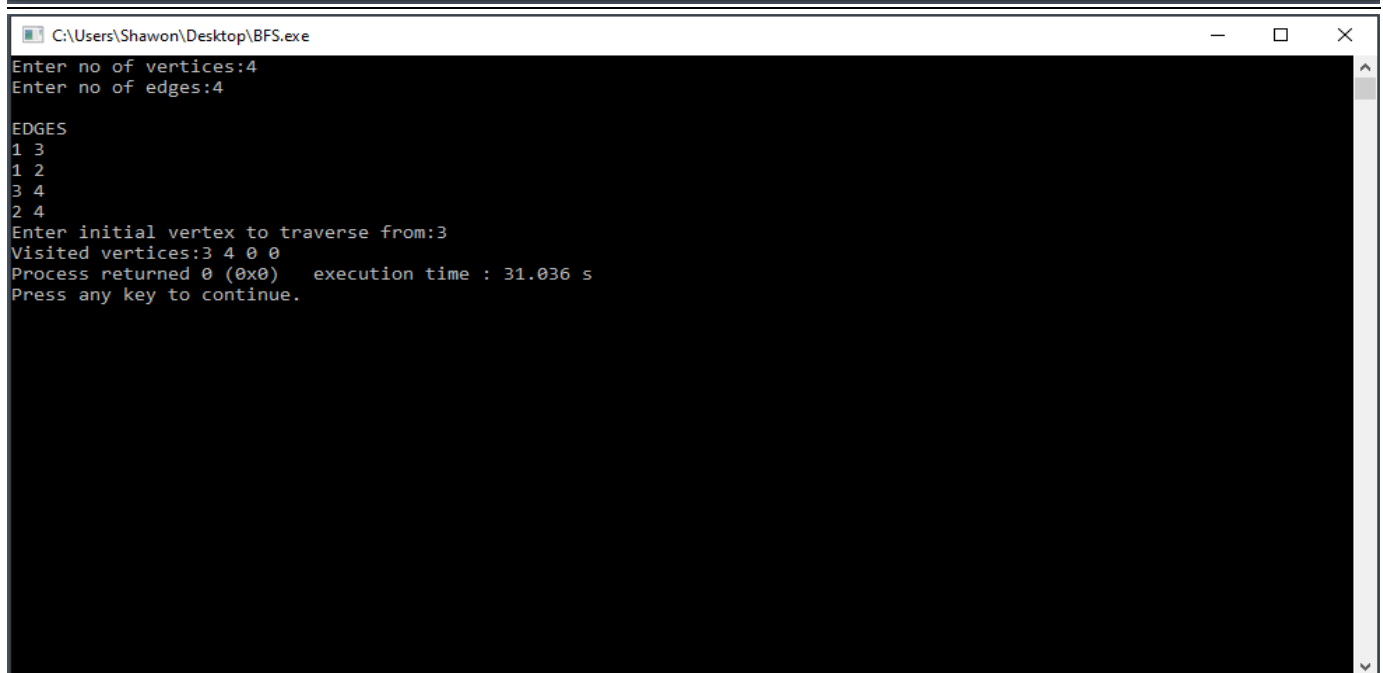
    return 0;
}
```

Output:



```
C:\Users\Shawon\Desktop\BFS.exe
Enter no of vertices:4
Enter no of edges:4

EDGES
1 2
1 3
2 4
3 4
Enter initial vertex to traverse from:1
Visited vertices:1 2 3 4
Process returned 0 (0x0)   execution time : 63.258 s
Press any key to continue.
```



```
C:\Users\Shawon\Desktop\BFS.exe
Enter no of vertices:4
Enter no of edges:4

EDGES
1 3
1 2
3 4
2 4
Enter initial vertex to traverse from:3
Visited vertices:3 4 0 0
Process returned 0 (0x0)   execution time : 31.036 s
Press any key to continue.
```