

```

#include<stdio.h>
#include<stdlib.h>
#define MAX 50
void bfs(int graph[MAX][MAX],int visited[MAX],int start,int n);
int main()
{
    int n;
    int graph[MAX][MAX];
    int visited[MAX]={0};
    int start;
    printf("Enter the number of vertices: ");
    scanf("%d",&n);
    printf("Enter the adjacency matrix of the graph:\n");
    for(int i=0;i<n;i++)
    {
        for(int j=0;j<n;j++)
        {
            scanf("%d",&graph[i][j]);
        }
    }
    printf("Enter the starting node (0 to %d): ",n-1);
    scanf("%d",&start);
    printf("BFS traversal starting from node %d:\n",start);
    bfs(graph,visited,start,n);
    return 0;
}

void bfs(int graph[MAX][MAX],int visited[MAX],int start,int n)
{
    int queue[MAX],front=0,rear=0;
    queue[rear++]=start;
    visited[start]=1;
    while(front<rear)
    {
        int current=queue[front++];
        printf("%d",current);
        for(int i=0;i<n;i++)
        {
            if(graph[current][i]==1 &&!visited[i])
            {
                queue[rear++]=i;
                visited[i]=1;
            }
        }
    }
}

```

```
printf("Enter the starting node (0 to %d): ",n-1);  
scanf("%d",&start);  
printf("BFS traversal starting from node %d:\n",start);  
bfs(graph,visited,start,n);  
return 0;
```

```
}
```

```
void bfs(int graph[MAX][MAX],int visited[MAX],int start,int n)  
{
```

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

```
    queue[rear++]=start;
```

```
    visited[start]=1;
```

```
    while(front<rear)
```

```
{
```

```
    int current=queue[front++];
```

```
    printf("%d",current);
```

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

```
{
```

```
        if(graph[current][i]==1 &&!visited[i])
```

```
{
```

```
            queue[rear++]=i;
```

```
            visited[i]=1;
```

```
}
```

```
}
```

```
}
```

```
}
```

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```
PS C:\Users\STUDENT\Downloads\canteen\style> cd "c:\Users\STUDENT\Down
```

```
Enter the number of vertices: 3
```

```
Enter the adjacency matrix of the graph:
```

```
0 0 1
```

```
1 0 0
```

```
1 0 1
```

```
Enter the starting node (0 to 2): 1
```

```
BFS traversal starting from node 1:
```

```
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```

```
PS C:\Users\STUDENT\Downloads\canteen\style> █
```