

```

1  #include <stdio.h>
2  #include <stdbool.h>
3
4  #define MAX 100
5
6  int adjMatrix[MAX][MAX], queue[MAX], front = 0, rear = -1;
7  bool visited[MAX];
8
9  void enqueue(int vertex) {
10     queue[++rear] = vertex;
11 }
12
13 int dequeue() {
14     return queue[front++];
15 }
16
17 void bfs(int start, int n) {
18     enqueue(start);
19     visited[start] = true;
20     while (front <= rear) {
21         int current = dequeue();
22         printf("%d ", current);
23         for (int i = 0; i < n; i++) {
24             if (adjMatrix[current][i] && !visited[i]) {
25                 enqueue(i);
26                 visited[i] = true;
27             }
28         }
29     }
30 }
31
32 int main() {
33     int vertices, edges, src, dest, start;
34     printf("Enter number of vertices and edges: ");
35     scanf("%d %d", &vertices, &edges);
36     for (int i = 0; i < edges; i++) {

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32 int main() {
33     int vertices, edges, src, dest, start;
34     printf("Enter number of vertices and edges: ");
35     scanf("%d %d", &vertices, &edges);
36     for (int i = 0; i < edges; i++) {
37         scanf("%d %d", &src, &dest);
38         adjMatrix[src][dest] = adjMatrix[dest][src] = 1;
39     }
40     printf("Enter starting vertex: ");
41     scanf("%d", &start);
42     bfs(start, vertices);
43     return 0;
44 }
45

```

```
Enter the number of vertices: 4 4
Enter the number of edges: Enter the edges (format: source destination):
0 1
0 2
1 2
2 3
Enter the starting vertex for BFS: 0
BFS Traversal: 0 1 2 3

=== Code Execution Successful ===
```