

Câu hỏi 2

Chính xác

Chấm điểm của 2,00

Research **queue** which is implemented in C library at: <http://www.cplusplus.com/reference/queue/queue/>. You can use library **queue** in c++ for this question.

Using **queue**, complete function **void bfs(vector<vector<int>> graph, int start)** to traverse all the nodes of the graph from given start node using Breadth First Search algorithm and data structure **queue**, and print the order of visited nodes.

You can use below libraries in this question.

```
#include <iostream>
#include <vector>
#include <queue>
```

For example:

Test	Result
<pre>int init_graph[10][10] = { {0, 1, 1, 0, 1, 0, 1, 0, 1, 0}, {0, 0, 1, 1, 0, 0, 0, 1, 0, 0}, {0, 1, 0, 0, 0, 1, 1, 0, 1, 1}, {1, 0, 0, 0, 0, 0, 0, 1, 0, 0}, {0, 1, 0, 0, 0, 0, 0, 1, 0, 0}, {1, 0, 1, 0, 1, 0, 0, 0, 1, 0}, {0, 0, 1, 1, 0, 1, 0, 0, 0, 0}, {1, 0, 0, 0, 0, 1, 1, 0, 1, 0}, {0, 0, 0, 0, 0, 1, 0, 1, 0, 1}, {1, 0, 1, 0, 1, 0, 0, 0, 1, 0} }; int n = 10; vector<vector<int>> graph(n, vector<int>()); for (int i = 0; i < n; ++i) { for (int j = 0; j < n; ++j) { if (init_graph[i][j]) graph[i].push_back(j); } } bfs(graph, 0);</pre>	0 1 2 4 6 8 3 7 5 9

Answer: (penalty regime: 0 %)

Reset answer

```
1 void bfs(vector<vector<int>> graph, int start) {
2     int n = graph.size();
3     vector<bool> visited(n, false);
4     queue<int> q;
5     q.push(start);
6     visited[start] = true;
7     while (!q.empty()) {
8         int node = q.front();
9         q.pop();
10        cout << node << " ";
11        for (int neighbor : graph[node]) {
12            if (!visited[neighbor]) {
13                visited[neighbor] = true;
14                q.push(neighbor);
15            }
16        }
17    }
18    cout << endl;
19 }
```

Kiểm tra

Passed all tests! ✓

BÁCH KHOA E-LEARNING



WEBSITE

HCMUT

MyBK

BKSI

LIÊN HỆ

📍 268 Lý Thường Kiệt, P.14, Q.10, TP.HCM

☎ (028) 38 651 670 - (028) 38 647 256 (Ext: 5258, 5234)

✉ elearning@hcmut.edu.vn