

Terminal Nodes in C++					
<pre> #include <iostream> #include <vector> #include <unordered_map> #include <unordered_set> using namespace std; class TerminalNodes { private: unordered_map<int, vector<int>> adjacencyList; public: TerminalNodes() {} void addEdge(int source, int destination) { adjacencyList[source].push_back(destination); adjacencyList[destination]; // Ensure destination is also in the map } void printTerminalNodes() { vector<int> terminalNodes; for (auto it = adjacencyList.begin(); it != adjacencyList.end(); ++it) { if (it->second.empty()) { terminalNodes.push_back(it- >first); } } cout << "Terminal Nodes:" << endl; for (int node : terminalNodes) { cout << node << endl; } } }; int main() { TerminalNodes graph; // Adding edges to the graph graph.addEdge(1, 2); graph.addEdge(2, 3); graph.addEdge(3, 4); graph.addEdge(4, 5); graph.addEdge(6, 7); graph.printTerminalNodes(); return 0; } </pre>	Step-by-Step Dry Run				
	Step	Operation	Affected Node(s)	Adjacency List State	Notes
	1	addEdge(1, 2)	1, 2	{1: [2], 2: []}	1 → 2, ensure 2 is in the map
	2	addEdge(2, 3)	2, 3	{1: [2], 2: [3], 3: []}	2 → 3, ensure 3 is in the map
	3	addEdge(3, 4)	3, 4	{1: [2], 2: [3], 3: [4], 4: []}	3 → 4, ensure 4 is in the map
	4	addEdge(4, 5)	4, 5	{1: [2], 2: [3], 3: [4], 4: [5], 5: []}	4 → 5, ensure 5 is in the map
	5	addEdge(6, 7)	6, 7	{1: [2], 2: [3], 3: [4], 4: [5], 5: [], 6: [7], 7: []}	6 → 7, ensure 7 is in the map
	6	printTerminalNodes()	Scan all nodes	Check which nodes have empty adjacency lists	Nodes 5 and 7 have no outgoing edges
	7	Print	Terminal Nodes		Output: 5, 7
✔ Final Output Terminal Nodes: 5 7					
Output:- Terminal Nodes: 7 5					