CSE220: Data Structures (Lab)
Fall 2024
Lab Quiz - 07
Duration: 30 Minutes

A

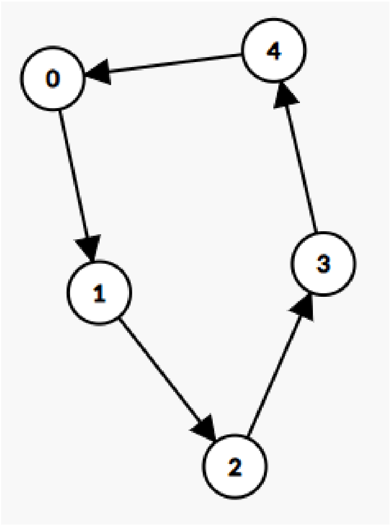
Name:	ID:	Section:

Question [15 Points]

Write a Python or Java function called **wantToReturnStart**. The function takes **the given graph** represented as an adjacency matrix (a 2D list where graph[i][j] = 1 means there is a directed edge from node i to node j, and graph[i][j] = 0 means there is no edge from node i to node j).

For the given graph, the function should return ***True*** if there exists any cycle (a cycle is defined as a path where you can start from **node 0**, follow some edges, and eventually return to **node 0**) and ***False*** otherwise.

Note: You have to manually build an adjacency matrix at first to represent the following directed unweighted graph. Also, you cannot use any built-in function, tuple, or dictionary. But you may build any helper function. And, assume that any code portion is not implemented.

Given Graph	Input of function	Output	Explanation
	**graph** [as an adjacency matrix]	**True**	**The graph provided is a directed graph where node 0 can reach itself through the path 0 → 1 → 2 → 3 → 4→ 0 (using 2D list traversal)**

**Hint: Solving this question is much easier than getting out of bed this winter morning.*