Lab Assignment 12

Course Scheduling:

- You are given an integer n denoting number of courses and a list of prerequisite pairs. Each course is labeled from 0 to n-1. A prerequisite pair [a, b] means you must take course b before course a.
- Write a program that determines a possible order in which all courses can be studied. If it is not possible, return an empty list
- Note that there will only be one correct answer.
- You will have to convert the prerequisites into Adjacency matrix.s
- Write a function with the following requirements.

Function Details:

def course_schedule(n, prerequisites):

Parameters:

- n = Number of courses
- prerequisites = prerequisite pairs (A prerequisite pair [a, b] means you must take course b before course a)

Return Type:

- Return a list containing an order in which all courses can be implemented. If it is not possible, return an empty list.

n = 4
prerequisites = [[1, 0], [2, 0], [3, 1], [3, 2]]
expected = [0, 1, 2, 3]

n = 5
prerequisites = [[1, 0], [2, 0], [3, 1], [4, 2], [4, 3]]
expected = [0, 1, 2, 3, 4]

n = 5
prerequisites = [[2, 0], [3, 1], [4, 2], [4, 3]]
expected = [0, 1, 2, 3, 4]

n = 6
prerequisites = [[1, 0], [2, 0], [3, 1], [3, 2], [4, 3], [5, 2]]
expected = [0, 1, 2, 3, 5, 4]

n = 2
prerequisites = [[0, 1], [1, 0]]
expected = []

n = 3
prerequisites = [[0, 1], [1, 2], [2, 0]]
expected = []

n = 4
prerequisites = [[0, 1], [1, 0], [2, 3], [3, 2]]
expected = []

n = 5
prerequisites = [[1, 0], [2, 1], [3, 2], [4, 3], [2, 4]]
expected = []

n = 4
prerequisites = [[1, 0], [2, 1], [3, 2]]
expected = [0, 1, 2, 3]

n = 5
prerequisites = [[1, 0], [2, 1], [3, 2], [4, 3]]
expected = [0, 1, 2, 3, 4]

n = 4
prerequisites = [[2, 0], [2, 1], [3, 2]]
expected = [0, 1, 2, 3]

n = 6
prerequisites = [[3, 0], [3, 1], [4, 1], [5, 2], [5, 3], [5, 4]]
expected = [0, 1, 2, 3, 4, 5]

n = 4
prerequisites = [[1, 0], [2, 0], [3, 1], [3, 2]]
expected = [0, 1, 2, 3]

n = 5
prerequisites = [[1, 0], [2, 0], [3, 1], [4, 1], [4, 2]]
expected = [0, 1, 2, 3, 4]