Homework Assignment #10
Due: April 3, 2020 at 2:30 p.m.

1. The software engineering programme at the National University of Lower Leutonia (NULL) requires n courses, all of which are required to complete the degree. Each course specifies some prerequisite courses that must be completed before taking that course. For example, both EECS6509 and EECS7125 must be completed before taking EECS1000. (Leutonian universities use random numbers to identify courses: there is no relationship between the number and the level of the course, and the courses listed in the academic calendar's programme requirements appear in random order.) Assume each course is offered every term, and there is no limit on how many courses a student can take per term. Give an algorithm that outputs a plan for which courses to take in each term so that the degree is completed using as few terms as possible. Include descriptions of any data structure used in your algorithm. Justify why your algorithm is correct and show that it runs in linear time.