Assignment 1

Given the attached knowledge base *"students_courses.pl"* containing students' grades in some courses and courses' prerequisites, you are required to write a Prolog program that solves the tasks explained below.

Task 1:

Get the list of students (IDs & grades in nested lists) who have taken a specific course.

Examples:

```
?- studentsInCourse('Robotics', Students).
Students = [[stud06, 62], [stud09, 29]]
?- studentsInCourse('Algorithms', Students).
Students = []
```

Task 2:

Get the number of students who have taken a specific course.

Examples:

```
?- numStudents('Algorithms', Num).
Num = 0
?- numStudents('Math 1', Num).
Num = 4
```

Task 3:

Get the maximum grade that a specific student was able to obtain.

Examples:

```
?- maxStudentGrade(stud10, MaxGrade).
MaxGrade = 97
?- maxStudentGrade(stud08, MaxGrade).
MaxGrade = 71
```

Show a student's grade digits in a specific course as a list of words.

Examples:

```
?- gradeInWords(stud04, 'Database', DigitsWords).

DigitsWords = [five, nine]

?- gradeInWords(stud07, 'Math 2', DigitsWords).

DigitsWords = [eight]

?- gradeInWords(stud01, 'Programming 1', DigitsWords).

DigitsWords = [nine, zero]
```

Get a list containing the sequence of courses that a student needs to take in order to be able to take the target course. The query must only succeed if the student has already taken and successfully passed a course that can directly or indirectly lead to the target.

Examples:

```
?- remainingCourses(stud01, 'Advanced Algorithms', Courses).

Courses = ['OOP', 'Data Structures', 'Algorithms']

?- remainingCourses(stud07, 'Electronics 2', Courses).

false.

?- remainingCourses(stud02, 'Networks', Courses).

Courses = []

?- remainingCourses(stud05, 'Computer Architecture', Courses).

Courses = ['Electronics 2']

?- remainingCourses(stud08, 'Data Warehouses', Courses).

false.
```