OOAD Lab Assignment

You are tasked with designing a School Management System to handle various types of students and courses. To model this system, you should use inheritance to represent different types of students (e.g., undergraduate, graduate) and their courses.

Instructions:

Create the following classes:

- Student class: This is the base class for all students. It should have attributes such as the student's name, student ID, and age. Include member functions to get and set these attributes.
- UndergraduateStudent class: This is a subclass of Student and represents undergraduate students. It should inherit the attributes of the Student class and include additional attributes like the major and the number of completed credits. Include member functions to get and set these additional attributes.
- GraduateStudent class: This is another subclass of Student and represents graduate students. It should inherit the attributes of the Student class and include additional attributes like the research area and the thesis topic. Include member functions to get and set these additional attributes.
- Course class: This represents a course in the school. It should have attributes such as the course code, course name, and instructor's name. Include member functions to get and set these attributes.
- School class: This is the main class representing the school management system. It should contain a collection of students (undergraduate and graduate) and courses using inheritance. Include functions to enroll students in courses and display student and course details.

1. Implement appropriate constructors for each class to initialize their attributes.
2. In the main function, create instances of the School class and add multiple students (undergraduate and graduate) and courses to represent a school setup.
3. Demonstrate the use of inheritance by showing how undergraduate and graduate students are derived from the Student class and share common attributes.
4. Implement functionality to enroll students in courses and display student and course details.