Question:

Design a C# program using Object-Oriented Programming principles to manage a collection of students. Implement the following:

1. Interface: Create an interface named `IStudent` with the following methods:

- `void AddStudent(string name, int age, string grade)`: Adds a new student to the collection.

- `void RemoveStudent(string name)`: Removes a student from the collection based on the given name.

- `void DisplayStudents()`: Displays all students in the collection.

2. Class Implementation: Create a class named `StudentManager` that implements the `IStudent` interface. The class should have the following properties:

- A private collection to store students.

- Implement methods to add, remove, and display students.

3. Inheritance: Create a derived class named `UniversityStudent` that inherits from the `StudentManager` class. This class should have an additional property:

- `string major`: Represents the major of the university student.

4. Polymorphism: Override the `DisplayStudents()` method in the `UniversityStudent` class to display both the name and major of each university student.

5. Main Program: Write a main program to demonstrate the functionality of the `StudentManager` and `UniversityStudent` classes. Perform the following actions:

- Add multiple students to the collection.

- Remove a student from the collection.

- Display all students.

- Create an instance of `UniversityStudent`, add university students to the collection, and display them.

Grading Criteria:

- Proper implementation of the `IStudent` interface: 5 marks

- Correct implementation of the `StudentManager` class with add, remove, and display methods: 5 marks

- Implementation of the `UniversityStudent` class with inheritance and additional property: 5 marks

- Proper override of the `DisplayStudents()` method in the `UniversityStudent` class: 5 marks

- Demonstration of functionality in the main program: 5 marks