EF Core Assignments

You need to develop an application to manage course enrollment for Elearning. You need to use Entity Framework Core as data access mechanism for the application.

You need to create the following entities.

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| **Table** | **Student** |
| StudentId | Int, Primary Key |
| First Name | varchar, not null |
| Last Name | varchar, not null |
| Email | varchar, not null |

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| **Table** | **StudentAdress** |
| StudentId | Int, PrimaryKey |
| Address1 | varchar, not null |
| Address2 | varchar, not null |
| City | varchar, not null |
| State | varchar, not null |
| Pincode | int, not null |

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| **Table** | **Professor** |
| ProfessorId | Int, Primary Key |
| First Name | Varchar, not null |
| LastName | Varchar, not null |
| Contact No | long,not null |
| Email | Varchar, not null |

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| **Table** | **Course** |
| CourseId | Int,Primary Key |
| CourseName | varchar, not null |
| Duration | Int, notnull |
| TeacherId | Foreign Key |

1. Create a .Net Core Console application and the required nuget package for Entity Framework Core.
2. Add the following entity classes to the Model folder in the project
   1. Courses.cs
   2. Student.cs
   3. StudentAddress.cs
   4. Teacher.cs
3. As per the above tables add the require properties to the classes created in step 2, use data annotations to apply database constraints
4. Add the following relationship to the classes created in the above step
   1. One to one relationship between Student and StudentAddress
   2. One to many relationship between Teacher and Course
   3. Many to Many relationship between Student and Course (Use Fluent API)
5. Add database context name ElearningDBContext and seed sample input into the database.
6. Use migration to update the database
7. Write code to accept the student and student address from the user and add it to database.
8. Write code to search a teacher based on id and update the details of the teacher (Use disconnected architecture)
9. Create 2 new entities by inheriting the Student class.
   1. SchoolStudent
      1. SchoolName
   2. CollegeStudent
      1. CollegeName
10. Write code to add SchoolStudent and Collegestudent in database
11. Use eager loading to load and display student and course details
12. Use lazy loading to load and display teachers and course conduct by teachers (use proxy package)
13. Create and use the following database objects
    1. Add a stored procedure to insert record in to course table
    2. Add a scalar function to accept teacher id and return count of course conducted by the teacher