**Student Course Enrollment System**

**Problem Statement:** Student Course Enrollment System

**Objective:**

Design and implement a console-based application in **C#** to manage student enrollments in various courses. The system should allow the school administration to track which students are enrolled in which courses and provide summarized and filtered views using LINQ, collections, and data grouping.

**Requirements:**

1. **Store Student Information**
   * Each student has an ID and a Name.
2. **Manage Course Enrollments**
   * Students can enroll in one or more courses.
   * A student should not be enrolled in the same course more than once.
3. **Unique Course List**
   * The system must maintain a unique list of offered courses using a HashSet<string> to avoid duplicates.
4. **Enrollment Records**
   * Use a List<T> to store all course enrollment records (CourseName, Student, EnrollmentDate optional).
5. **Data Grouping & Queries**
   * Use LINQ with GroupBy to group students by the courses they are enrolled in.
   * Use LINQ to filter data (e.g., show all courses a specific student is enrolled in).
6. **Output**
   * Display:
     + All offered courses.
     + Students grouped by each course.
     + Courses for a specific student (e.g., Alice).

**Skills Practiced:**

* Working with List<T> and HashSet<T>.
* Applying LINQ queries for filtering and grouping.
* Basic object-oriented design (using Student and Enrollment classes).
* Console-based C# programming.

**Example Use Cases:**

* The school admin can check all students in the “Math” course.
* The system prevents duplicate entries of the same course.
* Quickly find all courses a student like “Liam” is enrolled in.