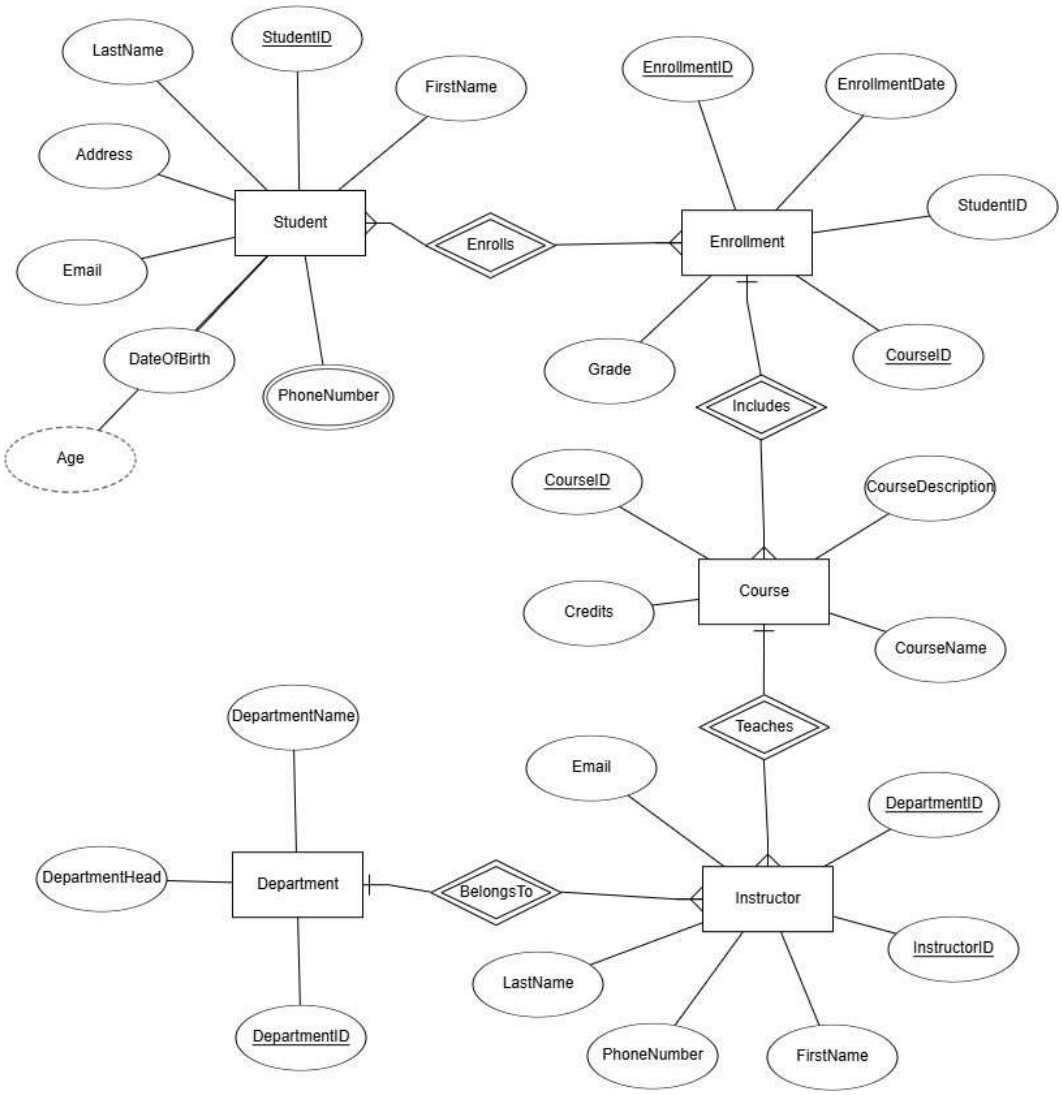
*******Propose a Conceptual Design using ER features using tools like ERD plus, ER Win etc. Convert the ER diagram into tables on paper and propose a normalize Relational data model.*******

Student_Name : Samiksha Bansode
Roll_No : 13108
Class : TE

Student Management System



Sure, creating an Entity-Relationship (ER) diagram for a Student Management System involves identifying the key entities, their attributes, and the relationships between them. Here's a basic overview of what this might look like:

Entities and Attributes

1. **Student**
    - **StudentID** (Primary Key)
    - FirstName
    - LastName
    - DateOfBirth
    - Email
    - Phone
    - Address
2. **Course**
    - **CourseID** (Primary Key)
    - CourseName
    - Description
    - Credits
3. **Enrollment**
    - **EnrollmentID** (Primary Key)
    - Grade
    - EnrollmentDate
4. **Instructor**
    - **InstructorID** (Primary Key)
    - FirstName
    - LastName
    - Email
    - Phone
    - Department
5. **Department**
    - **DepartmentID** (Primary Key)
    - DepartmentName
    - Location

6. **Classroom**
    - **ClassroomID** (Primary Key)
    - RoomNumber
    - Building
    - Capacity

Relationships

1. **Student - Enrollment - Course**
    - A student can enroll in many courses, and a course can have many students.
    - **Relationship: Enrollment** (Many-to-Many)
    - Attributes: Grade, EnrollmentDate
2. **Course - Instructor**
    - An instructor can teach multiple courses, but a course is taught by one instructor.
    - **Relationship: Teaches** (One-to-Many)
3. **Course - Classroom**
    - A course is assigned to one classroom, but a classroom can be used by multiple courses.
    - **Relationship: AssignedTo** (Many-to-One)
4. **Instructor - Department**
    - An instructor belongs to one department, but a department can have multiple instructors.
    - **Relationship: BelongsTo** (Many-to-One)

Detailed Descriptions:

- **Student to Enrollment**: Each student can have multiple enrollments (one per course). Each enrollment record links a student to a course.
- **Course to Enrollment**: Each course can have multiple enrollments, each linking to different students.
- **Instructor to Course**: Each instructor can teach multiple courses, but each course has one instructor.
- **Instructor to Department**: Each instructor belongs to one department. A department can have multiple instructors.

Notes

- **Primary Keys (PK) uniquely identify each record in a table.**
- **Foreign Keys (FK) are used to establish relationships between tables.**
- **Many-to-Many relationships are handled using junction tables (e.g., Enrollment).**