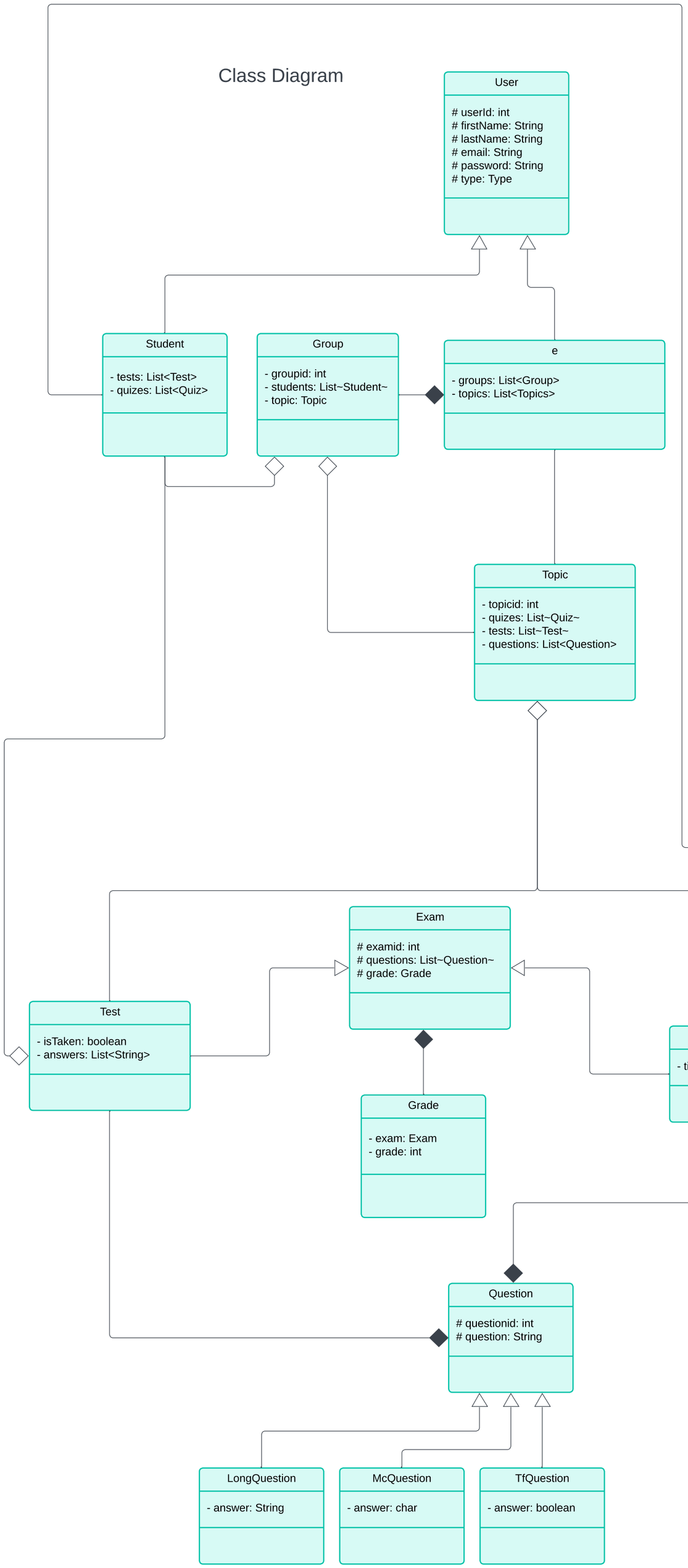
# Class Diagram




TeacherController

- teacher: Teacher

- addStudent(Student, Group)
- createGroup(Topic)
- createGroup(Topic, List<Student>)
- createQuiz(Question...)
- removeQuiz(Quiz)
- createTest(Question...)
- removeTest(Test)
- addQuestion(Exam, Question...)
- removeQuestion(Exam, Question)
- createQuestion(String type, String question, Object answer)
- removeQuestion(Question)
- editQuestion(Question, String question, Object answer)
- gradeQuiz(Student, Quiz, int grade)
- gradeTest(Student, Test, int grade)

StudentController

- student: Student

- doQuiz(Quiz)
- doTest(Test)

System

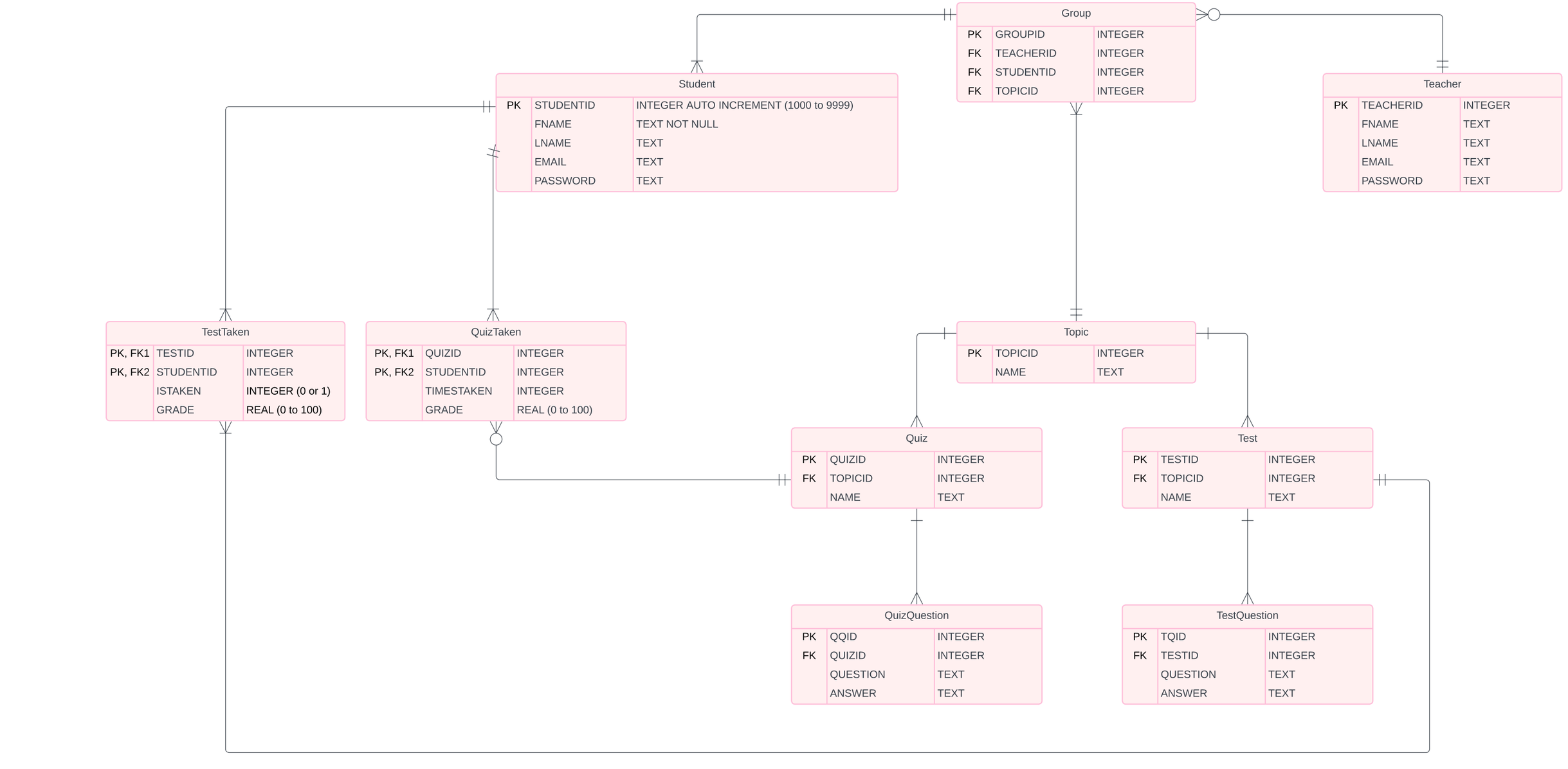
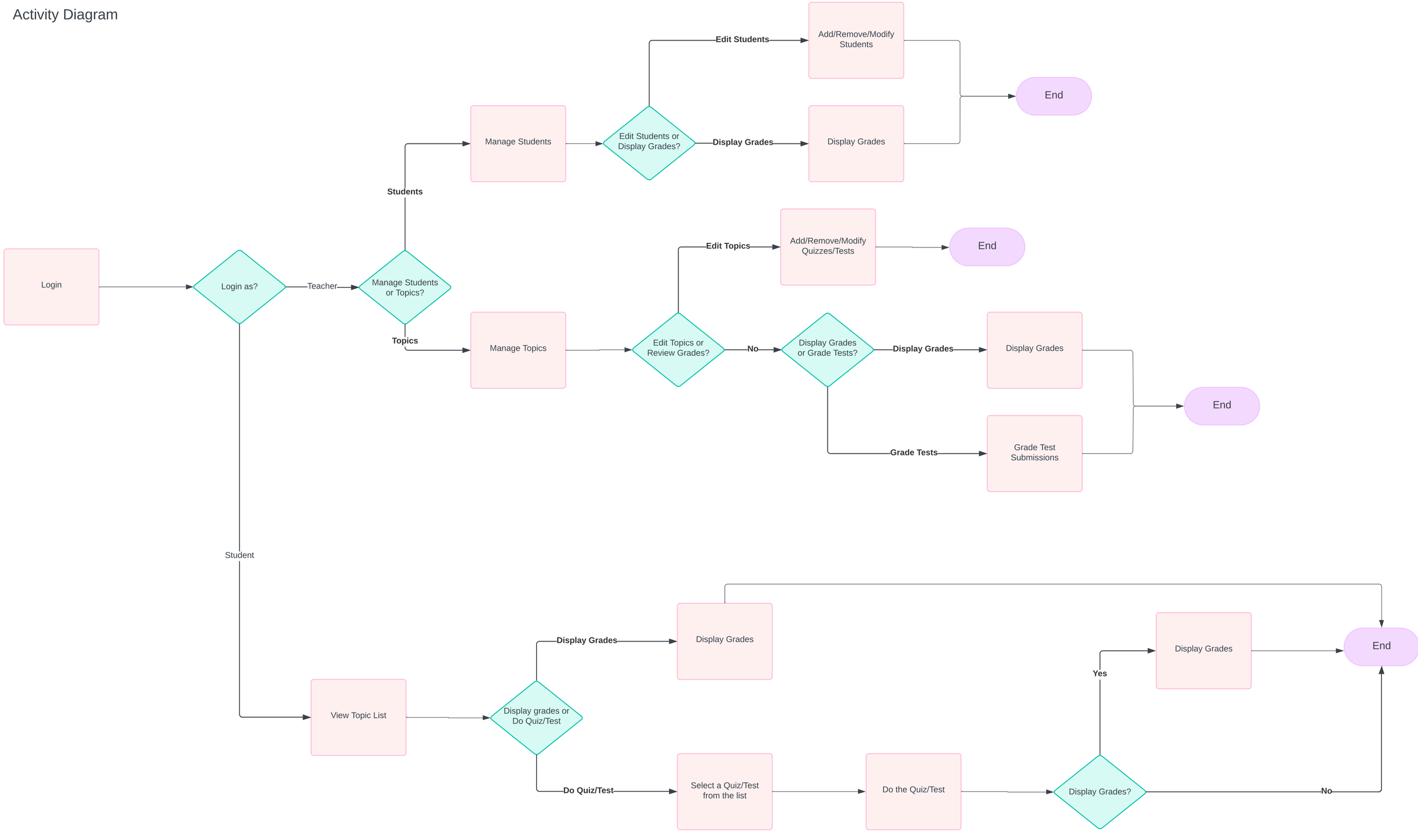
- instance: System
- teachers: List<Teacher>
- students: List<Student>
- topics: List<Topics>

- System()
+ getInstance()

QuizFactory

+ createQuestion(string type, string question, Object answer): Question

# ER Diagram


Group
PK GROUPID INTEGER
FK TEACHERID INTEGER
FK STUDENTID INTEGER
FK TOPICID INTEGER
Student
PK STUDENTID INTEGER AUTO INCREMENT (1000 to 9999)
FNAME TEXT NOT NULL
LNAME TEXT
EMAIL TEXT
PASSWORD TEXT
Teacher
PK TEACHERID INTEGER
FNAME TEXT
LNAME TEXT
EMAIL TEXT
PASSWORD TEXT
TestTaken
PK, FK1 TESTID INTEGER
PK, FK2 STUDENTID INTEGER
ISTAKEN INTEGER (0 or 1)
GRADE REAL (0 to 100)
QuizTaken
PK, FK1 QUIZID INTEGER
PK, FK2 STUDENTID INTEGER
TIMESTAKEN INTEGER
GRADE REAL (0 to 100)
Topic
PK TOPICID INTEGER
NAME TEXT
Quiz
PK QUIZID INTEGER
FK TOPICID INTEGER
NAME TEXT
Test
PK TESTID INTEGER
FK TOPICID INTEGER
NAME TEXT
QuizQuestion
PK QQID INTEGER
FK QUIZID INTEGER
QUESTION TEXT
ANSWER TEXT
TestQuestion
PK TQID INTEGER
FK TESTID INTEGER
QUESTION TEXT
ANSWER TEXT

Activity Diagram