

Entity

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classDiagram
    class Admin {
        -adminID: int
        -salary: double
        +Admin(name: String, networkName: String, gender: String, nationality: String, emailID: String, adminID: int)
        +Admin(n: networkName: String)
        +getAdminID(): int
        +setAdminID(n: adminID: int)
        +print()
    }
    class User {
        # name: String
        # networkName: String
        # emailID: String
        # gender: String
        # nationality: String
        - User(n: networkName: String)
        + User(n: name: String, network: String, gender: String, nationality: String, emailID: String)
        + setName(n: name: String)
        + getNetworkName(): String
        + setNetworkName(n: networkName: String)
        + getEmailID(): String
        + setEmailID(n: emailID: String)
        + getGender(): String
        + setGender(n: gender: String)
        + getNationality(): String
        + setNationality(n: nationality: String)
        + print()
    }
    class Course {
        - courseCode: String
        - courseName: String
        - academicUnits: int
        - schoolName: String
        + Course(n: courseCode: String, courseName: String, academicUnits: int, schoolName: String)
        + Course(c: courseCode: String)
        + getCourseCode(): String
        + setCourseCode(n: courseCode: String)
        + getCourseName(): String
        + setCourseName(n: courseName: String)
        + getAcademicUnits(): int
        + setAcademicUnits(n: academicUnits: int)
        + getSchoolName(): String
        + setSchoolName(n: schoolName: String)
        + addIndexNumber(n: indexNumber: int, vacancy: int)
        + removeIndexNumber(out: index: Object)
        + getIndexNumberList(): ArrayList<Object>
        + setIndexNumberList(indexNumberList: ArrayList<Object>)
        + equals(Object): boolean
        + print()
    }
    class Student {
        - studentID: String
        - gender: String
        - matriculationNumber: String
        - maxAU: int
        - studyYear: int
        - registeredAU: int
        + Student(n: name: String, networkName: String, matriculationNumber: String, emailID: String, gender: String, String, int)
        + Student(n: networkName: String)
        + Student(n: networkName: String, matriculationNumber: String)
        + getMatriculationNumber(): String
        + setMatriculationNumber(matriculationNumber: String)
        + getRegisteredAU(): int
        + setRegisteredAU(n: registeredAU: int)
        + getSchool(): String
        + setSchool(school: String)
        + getMaxAU(): int
        + setMaxAU(maxAU: int)
        + getStudyYear(): int
        + setStudyYear(studyYear: int)
        + getIndexRegisteredAUObject(): ArrayList<Object>
        + setIndexRegistered(out: indexRegistered: ArrayList<Index>)
        + getIndexOnWaitList(): ArrayList<Index>
        + getIndexOfWaitListObject(): ArrayList<Object>
        + setIndexOfWaitList(out: indexOnWaitList: ArrayList<Index>)
        + removeIndex(out: index: Index)
        + addIndexRegistered(out: index: Index)
        + removeIndexFromWaitList(out: index: Index)
        + addIndexRegisteredIn(academicUnits: int)
        + equals(out: object: Object): boolean
        + print()
        + setIndexRegisteredIn(n: registerAU: int, unregisterAU: int, registerIndex: LocalTime, unregisterIndex: LocalTime)
        + setIndexOnWaitList(n: unregisterAU: int, registerAU: int, registerIndex: LocalTime, unregisterIndex: LocalTime)
        + getIndexOfWaitList(n: registerAU: int, unregisterAU: int, registerIndex: LocalTime, unregisterIndex: LocalTime)
        + getIndexOfWaitList(n: registerAU: int, unregisterAU: int, registerIndex: LocalTime, unregisterIndex: LocalTime)
    }
    class Lesson {
        - venue: String
        - day: int
        - lessonType: String
        - startTime: LocalTime
        - endTime: LocalTime
        - labWeek: String
        + Lesson(n: day: int, venue: String, lessonType: String, start: LocalTime, end: LocalTime)
        + Lesson(n: day: int, venue: String, lessonType: String, labWeek: String, start: LocalTime, end: LocalTime)
        + getLabWeek(): String
        + setLabWeek(n: labWeek: String)
        + getDay(): int
        + setDay(n: day: int)
        + getVenue(): String
        + setVenue(n: venue: String)
        + getLessonType(): String
        + setLessonType(n: lessonType: String)
        + getStartTime(): LocalTime
        + setStartTime(n: start: LocalTime)
        + getEndTime(): LocalTime
        + setEndTime(n: end: LocalTime)
        + checkLabInLabWeek(): boolean
    }
    Admin "1" -- "0..*" User
    Admin "1" -- "0..*" Course
    Admin "1" -- "0..*" Lesson
    User "1" -- "0..*" Student
    User "1" -- "0..*" Course
    User "1" -- "0..*" Lesson
    Course "1" -- "0..*" Student
    Course "1" -- "0..*" Lesson
    Student "1" -- "0..*" Lesson
    
```

The diagram illustrates the relationships between five entities: Admin, User, Course, Student, and Lesson. Admin is associated with User, Course, and Lesson. User is associated with Student, Course, and Lesson. Course is associated with Student and Lesson. Student is associated with Lesson. The diagram shows the attributes and methods for each entity, as well as the relationships between them, including multiplicity and direction of association.

Controller