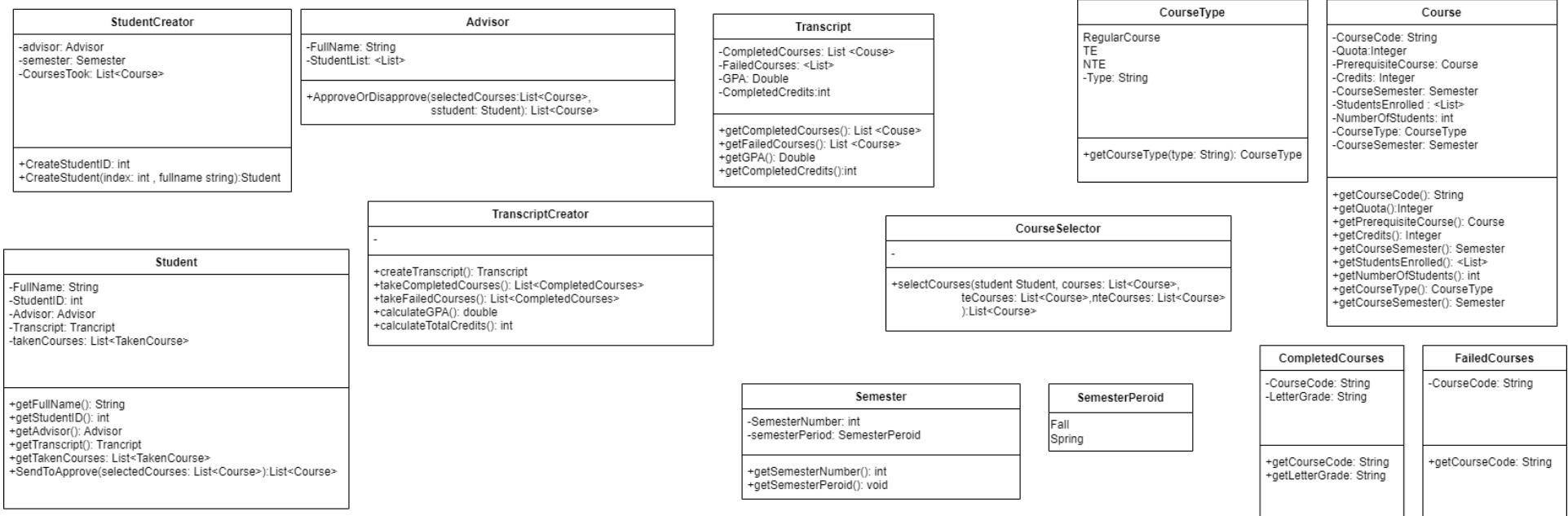
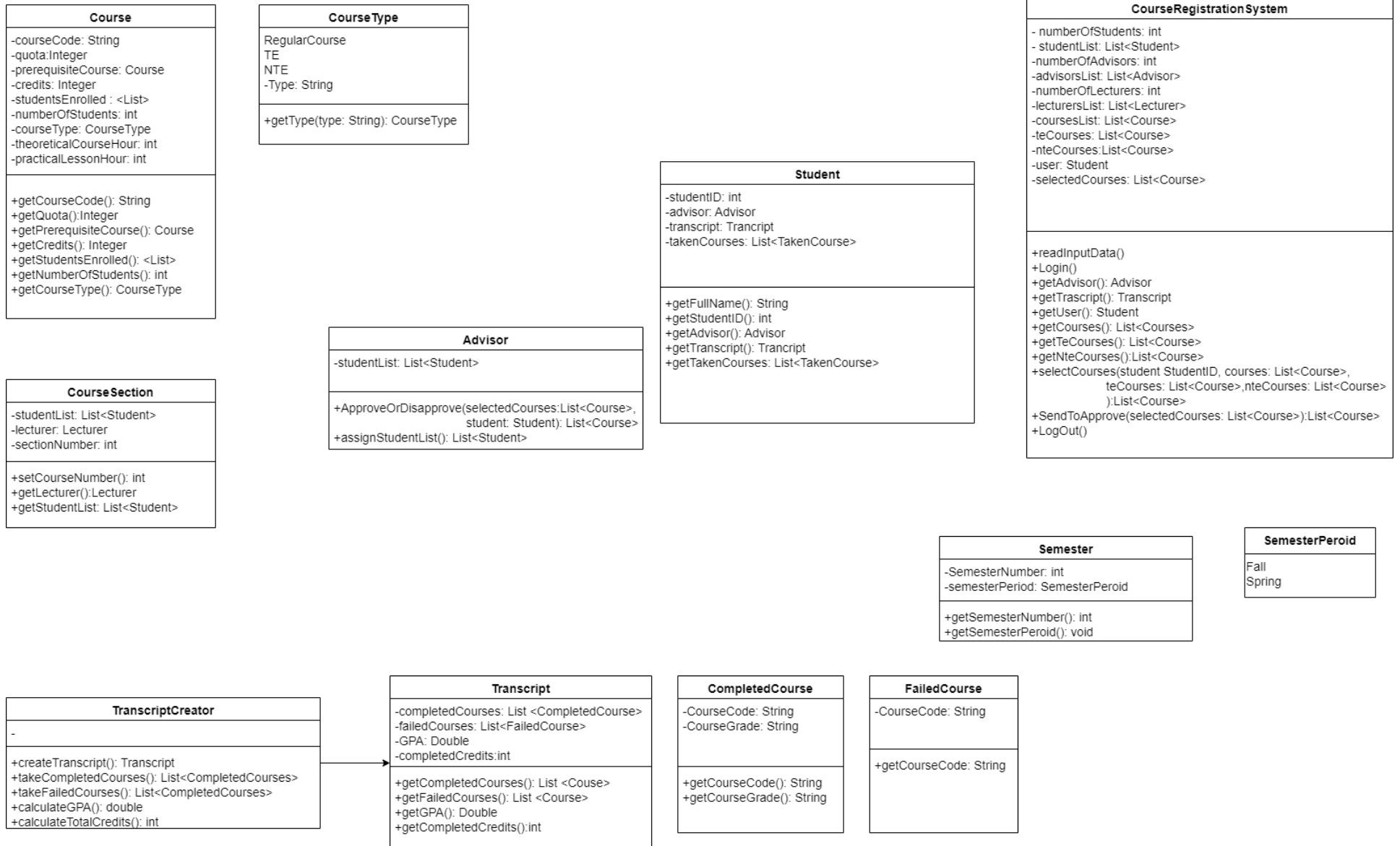


Steps of Design Class Daigram

First design: 3/11/2022



Second design: 10/11/2022



Final design:17/11/2022

Main
-
+main(): void

Advisor
-advisorID: int -fName: String -lName: String
+getters(): type +setters(type: Type): void +advisorControl(chosenClasses: List<Strings>, student: Student): void

Courses
-name: String -courseCode: String -prerequisite: List<String> -credit: int -courseType: int -semester: int -courseYear: int -theoreticalCourseHour: int -practicalLessonHour: int
+getters(): type +setters(type: Type): void +checkIfPrerequisite(courses: Courses): Boolean +checkIfTwoPrerequisite(courses: Courses): Boolean +getPreRequisiteName(): String +getTwoPreRequisiteName(courses: Courses): ArrayList<String>

Student
-studentId: int -fName: String -lName: String -totalCredits: int -advisorId: int -gpa: double -currentYear: int -currentSemester: int -currentSelectedCourses: List<String> -completedCourses: List<CompletedCourses> -availableCourses: List<String> -failedCourses: List<FailedCourses>
+getters(): type +setters(type: Type): void +selectFromAvailableCourses(): void +checkIfCourseFailed(courseCode: String): boolean +sendToAdvisorSelectedClasses(advisors: Advisor[]): void +changeSelectedCourses(advisorApprovedCourses: ArrayList<String>, advisorRejectedCoursesAndReasons: ArrayList<String>): void +gpaCalculator(courses: Courses[]): void

Generate Student
-student: List<Student> -courses: List<Courses> -firstSemesterCourses: List<String> -secondSemesterCoursesHash: HashMap<String, List<String>> -thirdSemesterCoursesHash: HashMap<String, List<String>> -fourthSemesterCoursesHash: HashMap<String, List<String>> -fifthSemesterCourses: HashMap<String, List<String>> -sixthSemesterCoursesHash: HashMap<String, List<String>> -seventhSemesterCoursesHash: HashMap<String, List<String>> -eighthSemesterCoursesHash: HashMap<String, List<String>> -prerequisiteList: HashMap<String, List<String>>
<<constructor>> GenerateStudents(student: Student[], courses: Courses[]) +addCourseNames(): void +generateYear(student: Student): void +semesterSetter(s: Student, semester: String): void +setCoursesList(s: Student): void +assignFailedCourses(currentSemesterFailed: List<FailedCourses>, courseCode: String): void +prerequisiteControlAndLock(courseCode: String, lockedCourses: HashMap<String, List<String>>): void +addCompletedCourses(currentSemesterCompleted: List<CompletedCourses>, courseCode: String, grade: String, finishedSemester: int): void +simulateFailedCourses(s: Student, currentSemesterCompleted: List<CompletedCourses>, currentSemester: int): void +unlockLockedCoursesAndSetAvailable(s: Student, completedCourses: List<CompletedCourses>, lockedCourses: HashMap<String, List<String>>): void +checkAvailableCourse(s: Student, currentSemesterCompleted: List<CompletedCourses>, currentSemesterFailed: List<FailedCourses>, lockedCourses: HashMap<String, List<String>>, currentSemesterCourses: HashMap<String, List<String>>): void +checkCourseGiven(s: Student): void +removeDuplicates(s: Student): void +checkCourseHasPrerequisite(courseCode: String): void +checkPrerequisiteCoursesGiven(s: Student, courseCode: String, semester: int): boolean +coursesGivenAlready(s: Student, courseCode: String): boolean +setStudentAdvisor(s: Student): void +simulateSemester(s: Student, semester: String): void +simulate(): void +assignRandomGrades(): String

Randomizer
-
+setAvailableCoursesForEachStudent(students: Student[], courses: Courses[], advisors: Advisor[]): void +addCourseNames(students: Student[], courses: Courses[]): void +generate(students: Student[]): ArrayList<Integer> +assignRandomGrades(): String

Transcript
-completedCourses: List<CompletedCourses> -failedCourses: List<FailedCourses> -gpa: Double -completedCredits: int
+getters(): type +setters(type: Type): void +printTranscript(students2: Student[]): void

CompletedCourses
-courseName: String -courseGrade: String -givenSemester: int
+getters(): type +setters(type: Type): void +toString(): String

FailedCourses
-courseName: String -courseGrade: String
+getters(): type +setters(type: Type): void +toString(): String