

SystemClass
- domain: SystemDomain - currentUser : Person - userInterface : UserInterface
+ SystemClass(u: UserInterface) + run () : void + login(userInfo: String[]) : void + logout():void + exit(): void + updateCourseJSON() : void + updateLecturerJSON() : void + updateAdvisorJSON() : void + updateStudentJSON(): void - studentToJsonArray(students: ArrayList<Student>): String[] - transcriptCourses(transcriptCoursesList: ArrayList<Course>): String[] + listenUserInterface(sm: SystemMessage): void + getCurrentUser(): Person + setCurrentUser(currentUser: Person): void

SystemDomain
- lecturerCreator : CreateLecturer - advisorCreator : CreateAdvisor - courseCreator : CreateCourse - studentCreator : CreateStudent - pageCreator : CreatePage
+ SystemDomain() + getLecturerCreator() : CreateLecturer + getAAdvisorCreator() : CreateAdvisor + getCourseCreator() : CreateCourse + getStudentCreator() : CreateStudent + getPageCreator () : CreatePage
SystemMessage
- functionType : FunctionType - nextPageType : PageType - input : Object
+ SystemMessage(functionType : FunctionType, pageType : PageType, input : Object) + getFunctionType() : FunctionType + setFunctionType(functionType : FunctionType): void + getPageType() : PageType + setPageType(pageType :PageType) : void + getInput() : Object + setInput(input : Object) : void

<<enumeration>> FunctionType
LOGIN EXIT CHANGE_PAGE LOGOUT CHANGE_PASSWORD READ_NOTIFICATIONS SELECT_COURSE DROP_COURSE SELECET_STUDENT APPROVE_REQUEST DISAPPROVE_REQUEST SELECT_MY_COURSE
<<enumeration>> CourseType
MANDATORY Nontechnical Technical Faculty
<<enumeration>> Day
MONDAY TUESDAY WEDNESDAY THURSDAY FRIDAY

<<enumeration>> Grade
AA BA BB CB CC DC DD FD FF DZ
<<enumeration>> Hour
H_08_30_09_20 H_09_30_10_20 H_10_30_11_20 H_11_30_12_20 H_13_00_13_50 H_14_00_14_50 H_15_00_15_50 H_16_00_16_50 H_17_00_17_50 H_18_00_18_50 H_19_00_19_50 H_20_00_20_50 H_21_00_21_50

Course
- courseId: Id - courseName: String - quota : int - term: int - courseType: CourseType - prerequisiteCourses: ArrayList<Course> - studentList : ArrayList<Student> - courseSchedules: ArrayList<CourseSchedule> - lecturer : Lecturer - credit: int
+ Course(courseId: Id, courseName: String , quota: int , term: int, lecturer: Lecturer, courseSchedules: ArrayList<CourseSchedule> , credit: int, courseType: CourseType) + enrollStudent(student: Student): void +getter setter methods
CourseSession
- sessionId: Id
+ CourseSession(courseID: Id, courseName: String, quota: int , term: int, lecturer: Lecturer, sessionId: Id, courseSchedules: ArrayList<CourseSchedule> , credit: int, courseType: CourseType) +getter setter methods

CourseSchedule
- courseDay: Day - courseHours: ArrayList<Hour>
+ CourseSchedule(courseDay: Day, courseHours: ArrayList<Hour>) + getter setter methods

GradeClass
- course: Course - grade: Grade - term: int
+ GradeClass(course: Course, grade: Grade) + getter setter methods

<<Abstract>> Person
- firstName : String - lastName : String - password: Password - syllabus: Syllabus
+ Person(firstName: String, lastName: String, password: Password) + createSyllabus(courses: ArrayList<Course> courses>): void +getter setter methods
Student
- studentId : Id - advisor: Advisor - transcript: Transcript - selectedCourseCredit: int - unreadNotifications : ArrayList <String> - readNotifications : ArrayList <String> - selectableCourse : ArrayList <Course> - selectedCourses : Arraylist <Course> - approvedCourses : Arraylist <Course> - curriculum : Arraylist <Course> - request : String
+ Student (firstName: String , lastName: String , studentID: Id , password: Password, advisor: Advisor , transcript: Transcript , curriculum: Arraylist <Course>) + filterCourses () : void + isSelectedCourse(course: Course) : boolean + isPassedCourse(course: Course) : boolean + isPrerequisiteCoursesPassed(course: Course) : boolean + isUnderQuota(course: Course) : boolean + isFailedCourse(course: Course) : boolean + addSelectableCourse(course: Course) : void + addApprovedCourse(course: Course) : void + dropAllSelectedCourses() :void + sendToApproval () : void + addSelectedCourse (i: int): boolean + setMarks(): void + setMarksInitial(): void + finalCheckSelectedCourse(course: Course): Mark + checkCourseType(course: Course): boolean + exceed(type: CourseType, limit: int): boolean + exceedTerm(type: CourseType): boolean + clearUnreadNotification(): void + addUnreadNotification(notification: String): void + dropCourse (i : int): void + addAllSessions(course: Course): void + removeAllSessions(course: Course): void + createSyllabus(courses: ArrayList<Course>): void + getter setter methods

Lecturer
- lecturerID : Id - givenCourses: ArrayList<Course> - selectedCourse: Course
+Lecturer(firstName: String, lastName: String, lecturerID: Id, password: Password) + selectCourse(index: int): void + createSyllabus(courses: ArrayList<Course>): void + getter setter methods
Advisor
- students: ArrayList <Student> - awaitingStudents: ArrayList <Student> - selectStudent: Student
+ Advisor (firstName: String, lastName: String, lecturerID : Id, password: Password) + findAwatingStudentList(): void + selectStudent (index: int): void + approve(): void + disapprove(): void + sendNotification (message: String, type: String): void - removeAwaitingStudent(student: Student): void + getter setter methods

Id
id: String
setId(id: String) : void getId() : Id

Password
- password : String
+ Password(password: String) +compareCurrentPassword(enteredPassword: String) : boolean +checkPasswordCond(newPassword: String): boolean +isContainsSpecialChar(newPassword: String) : boolean +lenghtCond(newPassword:String):boolean +checkUpperCaseCond(newPassword: String):boolean +checkLowerCaseCond(newPassword: String):boolean +checkNumberCaseCond(newPassword: String):boolean + getter setter methods

Transcript
- GPA _100: double - term : int - totalCredit: int - passedCourses : ArrayList <GradeClass> - failedCourses : ArrayList <GradeClass>
+ Transcript(GPA _100: double , term : int , passedCourses : ArrayList <GradeClass> , failedCourses : ArrayList <GradeClass>) + calculateTotalCredit(): void + getter setter methods

Syllabus
- syllabus: Course[][]
+ returnIndexDay(day: Day): int + returnIndexHour(hour: Hour): int + addCourseToSyllabus(course: Course): void + checkConflict(course: Course): boolean +fillSyllabus(selectedCourses: ArrayList<Course>): void +removeCourseFromSyllabus(course: Course): void + isEmpty(rowIndex: int, columnIndex: int): boolean + getter setter methods

CreatePage
- pages : ArrayList<Page>
+ createPages(currentUser : Person) : ArrayList <Page> + createMainMenuPageStudentContent (numberOfUnreadNotifications : int) : String - createMainMenuPageAdvisorContent() : String - createMainMenuPageLecturerContent() : String + createSelectedStudentsRequestPageContent(student : Student) : String + createEvaluateRequestPageContent(student : ArrayList<Student>) : String - createMyStudentsPageContent(student : ArrayList <Student>) : String + createSelectableCoursesPageContent(courses : ArrayList<Course>) : String + createSelectedCoursesPageContent(courses : ArrayList<Course>) : String + createAllCoursesPageContent (courses : ArrayList<Courses>) : String + createApprovedCoursesPageContent (courses : ArrayList<Courses>) : String - createProfilePageContent(user : Person) : String - createChangePasswordPage() : String - createMyCoursesPageContent(lecturer : Lecturer) : String + createSelectedMyCoursePage(course : Course) : String + createSyllabusPageContent(syllabus : Syllabus) : String - createMyNotificationsPageContent(unreadNotifications : ArrayList<String>), readNotifications : ArrayList<String>) : String - createTranscriptPageContent(student : Student) : String - courseIds(courseTable : Course[][]) : String[][] + courseListForContent(courses : ArrayList <Course>, type : int) : String - allCourseLabels(labelIndex : int) : String - returnHour(hourIndex : int) : String - blankAfterStr(str : String, space : int) : String - blankAfter(i : int) : String

CreateLecturer
- lecturers : ArrayList<Lecturer> - fileName : String
+ CreateLecturer (fileName : String) + createLecturers() : void

CreateAdvisor
- advisors : ArrayList<Advisor> - fileName : String
+ CreateAdvisor (fileName : String, lecturers : ArrayList<Lecturer>) + createAdvisors(lecturers : ArrayList<Lecturer>) : void + getAdvisors() : ArrayList<Advisor> + getFileName() : String + setFileName(fileName : String) : void

CreateStudent
-students : ArrayList<Student> -fileName : String -studentsFile : String
+ Create Student(fileName : String, studentsFile : String, courses : ArrayList<Course>, advisors : ArrayList <Advisor>) - createStudents (courses : ArrayList<Course>, advisors : ArrayList <Advisor>) : void - jsonArrToStrArr(jsonArray : JSONArray) : String[] - jsonArrToIntArr(jsonArray : JSONArray) : int[] - setTranscriptCourses (transcriptCourses : String[], grades : String[], termPassed : int[], courses : ArrayList<Course>) : ArrayList<GradeClass> + setStudentCourses (studentCoursesAr : String[], courses : ArrayList<Course>) : ArrayList<Course> - findAdvisor (advisorID : String, advisors : ArrayList<Advisor>) : Advisor - assingStudentsToAdvisor(advisors : ArrayLisr<Advisor>) : void - fillStudentListCourse(courses: ArrayList<Course>) : void - courseExists(course : Course, transcriptCourseList : ArrayList<GradeClass>) : boolean + calculateGPA(passedCourses : ArrayList<GradeClass>, failedCourses : ArrayList<GradeClass>) : double - letterToGrade(Grade grade) : double - getCourseGrade(strGrade : String) : Grade + getStudents() : ArrayList<Student>

CreateCourse
- courses : ArrayList<Course> - fileName : String
+ CreateCourse(fileName : String, lecturers : ArrayList<Lecturer>) - createCourses(lecturers : ArrayList<Lecturer>) : void - assignCoursesToLecturer(lecturers : ArrayList<Lecturer>) : void + jsonArrToStrArr(jsonArray : JSONArray) : String[] - fillCourseSchedule(dayJsonArr : JSONArray, hourJsonArr : JSONArray, courseSchedules : ArrayList<CourseSchedule>) : void - getCourseDay(strDay : String) : Day - getCourseHour (strHour : String) : Hour - setCourseType(courseTypeStr : String) : CourseType + getCourses() : ArrayList<Course> + setCourses(courses : ArrayList<Course>) : void