## + Utility() + initProjectPool(filename : string, projectPool[] : Project) : void + initStudentPool(filename : string, studentPool[] : Project) : void + initClassSectionPool(filename : string, classSectionPool[] : ClassSection) : void + initProjectStudentSkills(filename : string, projectPool[] : Project) : void + getSizeOfJson(filename : string, key : string) : int + getProjectXskill(projectPool[] : Project, i : int, j : int) : int + getSkillXstudent(studentPool[] : Student, i : int, j: int) : int + calcProjectXStudentMatrix(students : vector<Student>, projects : vector<Project>) : vector<vector<int>> + projectTypePartition(projectPool[] : Project, numProjects : int, t0 : char, t1 : char, t2 : char) : void + projectPriorityPartition(projectPool[] : Project, numProjects : int, t0: int, t1: int, t2: int): void + PriorityPartition(projectPool[] : Project, numProjects : int, t0 : int, t1: int, t2: int): void + classSectionTypePartition(classSectionPool[]: ClassSection, numClassSections: int, t0: char, t1: char): void + printIntMatrix(a : vector<vector<int>>) : void + ProjectToSectionPercentages(studentList: vector<vector<Student>>, projectList: vector<Project>, numProjects: int, NumOfClassSections : int) : int\*\* + arrayProjectToSectionPercentages(projectPool[]: Project, studentPool[]: Student, classSectionPool[]: ClassSection, percentMatrix[] : int, numProjects : int, numStudents : int, numClassSections: int, numSkills: int): void + projectToSectionAssignment(projectPool[] : Project, studentPool[]: Student, classSectionPool[]: ClassSection, numProjects: int, numStudents: int, numClassSections: int, numSkills: int, studentsInSections[]: int): void + makeProjectJSON(numProj : int, numSkill : int) : void + makeProjectCSV(numProj : int, numSkill : int) : void + makeStudentJSON(numStud : int, numSkill : int, studentsFromCanvas : vector<vector<Student>>): void + makeStudentCSV(numStud : int, numSkill : int) : void + calc\_projects(numStudents : int, teamSize : int, minTeamSize : int) : int + NumOfTeamsOf4(int numStudents, int teamSize) : int + toCSVsse(string filename) : vector<vector<string>> + toCSVcse(string filename) : vector<vector<string>> + csvToProjectsVector(filename : string, projectPool[] : Project, numProjects : int) : vector<Project> + getQuizID(quizName : string, filename : string) : int + getAssignmentID(quiz\_ID : int, filename : string) : int + getCategoryID(courseID : int, filename : string) : int + getGroupID(course ID : int, filename : string) : int + getSurveyAnswers(students : vector <Student>, assignment\_ID : int, filename : string): vector<Student> + getStudentsFromJson(filename : string) : vector<Student> + ~Utility()

Utility

## Learn about this template

UML class diagrams map out the structure of a particular system by modeling its classes, attributes, operations, and relationships between objects.

To customize this template:

- Click on any shape and type the information you would like to include.
- Add and arrange class shapes as needed.
- Update cardinality.
  - Click on a line and navigate to the properties bar to adjust the endpoints.
  - Click on a line and hover over the gear icon to add multiplicities.
  - Add additional lines by hovering over a shape and clicking the red dot

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