**UML Diagram for peer tutoring program**

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| **Tutor** |
| - String studentNumber  - String name  - String password  - ArrayList<String> courses  - int grade  - Schedule schedule  - ArrayList<Lesson> lessons  - ArrayList<Request> requests  - boolean occupied |
| + Tutor()  + String getStudentNumber()  + String getName()  + boolean verifyPassword(String pass)  + ArrayList<String> getCourses()  + int getGrade()  + Schedule getSchedule()  + ArrayList<Lesson> getLessons()  + ArrayList<Request> getRequests()  + boolean isOccupied()  + void setStudentNumber(String sNum)  + void setName(String n)  + void setPassword(String pass)  + void setCourses(ArrayList<String> courses)  + void addCourses(String course)  + void removeCourses(String course)  + void setGrade(int g)  + void setSchedule(Schedule)  + void addLesson(Lesson l)  + void removeLesson(Lesson l)  + void addRequest(Request r)  + void removeRequest(Request r)  + void setOccupied(boolean isOccupied)  + String toString() |
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| **Student** |
| - String studentNumber  - String name  - String password  - ArrayList<String> courses  - int grade  - ArrayList<Lesson> lessons |
| + Student()  + String getStudentNumber()  + String getName()  + boolean verifyPassword(String pass)  + ArrayList<String> getCourses()  + int getGrade()  + ArrayList<Lesson> getLessons()  + void setStudentNumber(String sNum)  + void setName(String n)  + void setPassword(String pass)  + void setCourses(ArrayList<String> courses)  + void addCourses(String course)  + void removeCourses(String course)  + void setGrade(int g)  + void addLesson(Lesson l)  + void removeLesson(Lesson l)  + String toString() |

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| **Schedule** |
| - boolean[] avalible // 0 = Monday … 6 = Sunday – “true” indicates that the tutor is available on that day  - ArrayList<TimeInterval> availableTimes[] // list of time intervals of availability - availableTimes[0]  contains all the time intervals that the tutor is available at on Mondays  + static final int MONDAY = 0  + static final int TUESDAY = 1  + static final int WEDNESDAY = 2  + static final int THURSDAY = 3  + static final int FRIDAY = 4  + static final int SATURDAY = 5  + static final int SUNDAY = 6 |
| + Schedule()  + ArrayList<TimeInterval> getAvailableTimesForDay(int day)  + boolean isAvailable(int day)  + void setTimeInterval(int day, ArrayList<TimeInterval> times)  + void addTimeInterval(int day, TimeInterval time)  + void removeTimeInterval(int day, TimeInterval time)  + void setAvailable(int day, boolean isAvailable)  + String toString() |
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| **TimeInterval** |
| - Time start  - Time end |
| + TimeInterval(Time s, Time e)  + Time getStart()  + Time getEnd() |

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| **Time** |
| - boolean am  - int hours  - int minutes |
| + Time(boolean am, int hours, int minutes)  + boolean isAm()  + boolean getHours()  + boolean getMinutes() |

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| **Request** |
| - Student student  - Tutor tutor  - int day  - TimeInterval time  - String course |
| + Request(Student s, Tutor t, int d, TimeInterval t, String course)    + Lesson accept()  + void reject()  + Student getStudent()  + Tutor getTutor()  + int getDay()  + TimeInterval getTime()  + String getCourse() |

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| **Lesson** |
| - Student student  - Tutor tutor  - int day  - TimeInterval time  - String course |
| + Lesson(Student s, Tutor t, int d, TimeInterval t, String course)  + Student getStudent()  + Tutor getTutor()  + int getDay()  + TimeInterval getTime()  + String getCourse() |

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| **Server** |
| + static ArrayList<Tutor> tutorList  + static ArrayList<Student> studentList  + static ArrayList<Lesson> lessonList  + static ArrayList<Request> requestList |
| + static void main(String args[])  - static void runServer()  - static void waitForConnection()  - static void processConnection()  - static void sendData(Object o)  - static void closeConnection()  + static void updateStudent(Student s) // adds s to list if it is not already there  + static void removeStudent(Student s)  + static void updateTutor(Tutor t)  + static void removeTutor(Tutor t)  + static void updateLesson(Lesson l)  + static void removeLesson(Lesson l)  + static void updateRequest(Request l)  + static void removeRequest(Request l)  + static boolean authenticateStudent(String studentNumber, String password)  + static boolean authenticateTutor(String studentNumber, String password)  + static boolean doesStudentAccountExist(String studentNumber)  + static boolean doesTutorAccountExist(String studentNumber)  + static ArrayList<Tutor> searchForTutors(Student s) |

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| **Client** |
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| - static void runClient()  - static void connectToServer()  - static void sendData(Object o)  - static void closeConnection()  + static void updateStudent(Student s) // adds s to list if it is not already there  + static void removeStudent(Student s)  + static void updateTutor(Tutor t)  + static void removeTutor(Tutor t)  + static void updateLesson(Lesson l)  + static void removeLesson(Lesson l)  + static void updateRequest(Request l)  + static void removeRequest(Request l)  + static boolean authenticateStudent(String studentNumber, String password)  + static boolean authenticateTutor(String studentNumber, String password)  + static boolean doesStudentAccountExist(String studentNumber)  + static boolean doesTutorAccountExist(String studentNumber)  + static ArrayList<Tutor> searchForTutors(Student s) |