Package comp3111G15

Class Summary

Class	Description
ATUEngine	The ATUEngine Produces Team-up results and have them stored in ATU_Team dataset.
DisplayWindowController	The DisplayWindowController describes the components used for the teaming up result table.
EnergyChartViewController	The EnergyChartViewController describes the components used for the Student Key Energies Zoom Out View
InputManager	The InputManager describes the resulting statistic data and student data
Library	The Library is the starting point of the application
LibraryTest	The LibraryTest is used for unit testing
RequestWindowController	The RequestWindowController describes the components used for the starting window of the ATU system.
Security	The Security checks password validation
Statistics	The Statistics shows table for students information
StatisticsTableController	The StatisticTableController controls the window for displaying statistics table
Student	The Student contains all information used for teaming up.
StudentTableController	The StudentTableController controls the window displaying the student information table
Team	The Team contains all information for one team
UIApplication	The UIApplication starts the UI of the ATU system

Hierarchy For Package comp3111G15

Class Hierarchy

- java.lang.Object
  - javafx.application.Application
    - comp3111G15.**UIApplication**
  - comp3111G15.**ATUEngine**
  - comp3111G15.**DisplayWindowController** (implements javafx.fxml.Initializable)
  - comp3111G15.**EnergyChartViewController** (implements javafx.fxml.Initializable)
  - comp3111G15.**InputManager**
  - comp3111G15.**Library**
  - comp3111G15.**LibraryTest**
  - comp3111G15.**RequestWindowController**
  - comp3111G15.**Security**
  - comp3111G15.**Statistics**
  - comp3111G15.**StatisticsTableController**
  - comp3111G15.**Student** (implements java.lang.Comparable<T>)
  - comp3111G15.**StudentTableController**
  - comp3111G15.**Team**

Package comp3111G15

Class UIApplication

java.lang.Object
    javafx.application.Application
        comp3111G15.UIApplication

```
public class UIApplication
extends javafx.application.Application
```

The UIApplication starts the UI of the ATU system

Author:

SzeWingKwan

Nested Class Summary

Nested classes/interfaces inherited from class javafx.application.Application

`javafx.application.Application.Parameters`

Field Summary

Fields inherited from class javafx.application.Application

`STYLESHEET_CASPIAN, STYLESHEET_MODENA`

Constructor Summary

Constructors

Constructor	Description
`UIApplication()`	

Method Summary

All Methods | **Static Methods** | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`static void`	`run(java.lang.String[] arg)`	UI entry point
`void`	`start(javafx.stage.Stage stage)`	Application entry point

Methods inherited from class javafx.application.Application

`getHostServices, getParameters, getUserAgentStylesheet, init, launch, launch, notifyPreloader, setUserAgentStylesheet, stop`

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

UIApplication

```
public UIApplication()
```

Method Details

start

```
public void start(javafx.stage.Stage stage)
           throws java.lang.Exception
```

Application entry point

Specified by:

`start` in class `javafx.application.Application`

Throws:

`java.lang.Exception`

run

```
public static void run(java.lang.String[] arg)
```

UI entry point

Parameters:

`arg` - argument array

Package comp3111G15

Class ATUEngine

java.lang.Object
    comp3111G15.ATUEngine

```
public class ATUEngine
extends java.lang.Object
```

The ATUEngine Produces Team-up results and have them stored in ATU_Team dataset.

Author:

HE Qihao

Field Summary

Fields

Modifier and Type	Field	Description
`java.util.List<Team>`	**`ATU_Team`**	List of team

Constructor Summary

Constructors

Constructor	Description
`ATUEngine``(java.util.List<Student> studentData)`	Class constructor, calls Create_Team() method to produce team-up results.

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`void`	**`Create_Common_Team`**`(int i)`	Create normal teams with three students.
`void`	**`Create_Special_Team`**`(int i)`	Some finishing work on remaining students not allocated with a group in K3_list, this method create team with four students
`void`	**`Create_Team`**`(java.util.List<Student> studentData)`	Create teams and put students from K1_list, K2_list and K3_list in each of them.
`java.util.List<Team>`	**`getTeamlist`**`()`	Accessor that returns team-up results.

Modifier and Type	Method	Description
void	`Order_by_energies()`	Select top(Team_Size) student_id from student_data order by K1_Energy in descending order and store into K1_List, Then select top(Team_size) student_id from student_data order by K2_Energy and put in K2_list by ascending order, and then put rest students in K3_list with no order

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Field Details

ATU_Team

```
public java.util.List<Team> ATU_Team
```

List of team

Constructor Details

ATUEngine

```
public ATUEngine(java.util.List<Student> studentData)
```

Class constructor, calls Create_Team() method to produce team-up results.

Parameters:

`studentData` - for ATUEngine to start running

Method Details

Order_by_energies

```
public void Order_by_energies()
```

Select top(Team_Size) student_id from student_data order by K1_Energy in descending order and store into K1_List, Then select top(Team_size) student_id from student_data order by K2_Energy and put in K2_list by ascending order, and then put rest students in K3_list with no order

Create_Common_Team

```
public void Create_Common_Team(int i)
```

Create normal teams with three students.

Parameters:

`i` - for (team.id-1)

Create_Special_Team

```
public void Create_Special_Team(int i)
```

Some finishing work on remaining students not allocated with a group in K3_list, this method create team with four students

Parameters:

`i` - for (team.id-1)

Create_Team

```
public void Create_Team(java.util.List<Student> studentData)
```

Create teams and put students from K1_list, K2_list and K3_list in each of them.

Parameters:

`studentData` - for teams to be created

getTeamlist

```
public java.util.List<Team> getTeamlist()
```

Accessor that returns team-up results.

Returns:

list of resulting team

Package comp3111G15

Class DisplayWindowController

java.lang.Object
    comp3111G15.DisplayWindowController

All Implemented Interfaces:

`javafx.fxml.Initializable`

```
public class DisplayWindowController
extends java.lang.Object
implements javafx.fxml.Initializable
```

The DisplayWindowController describes the components used for the teaming up result table.

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`DisplayWindowController()`	

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`void`	`initialize(java.net.URL location, java.util.ResourceBundle resources)`	

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

DisplayWindowController

```
public DisplayWindowController()
```

Method Details

initialize

```
public void initialize(java.net.URL location,
                       java.util.ResourceBundle resources)
```

Specified by:

`initialize` in interface `javafx.fxml.Initializable`

Package comp3111G15

Class EnergyChartViewController

java.lang.Object
    comp3111G15.EnergyChartViewController

All Implemented Interfaces:

`javafx.fxml.Initializable`

```
public class EnergyChartViewController
extends java.lang.Object
implements javafx.fxml.Initializable
```

The EnergyChartViewController describes the components used for the Student Key Energies Zoom Out View

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`EnergyChartViewController()`	

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
void	`initialize(java.net.URL url, java.util.ResourceBundle rb)`	

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

EnergyChartViewController

```
public EnergyChartViewController()
```

Method Details

initialize

```
public void initialize(java.net.URL url,
                       java.util.ResourceBundle rb)
```

Specified by:

`initialize` in interface `javafx.fxml.Initializable`

Package comp3111G15

Class InputManager

java.lang.Object
    comp3111G15.InputManager

```
public class InputManager
extends java.lang.Object
```

The InputManager describes the resulting statistic data and student data

Author:

SzeWingKwan

Field Summary

Fields

Modifier and Type	Field	Description
`static java.lang.String`	**`delimiter`**	Delimiter for student name
`static javafx.collections.ObservableList<Statistics>`	**`stat_data`**	List of statistics
`static javafx.collections.ObservableList<Student>`	**`student_data`**	List of student information

Constructor Summary

Constructors

Constructor	Description
`InputManager``()`	

Method Summary

All Methods | **Static Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`static java.lang.String[]`	**`get_k3_ticks`**`(java.util.List<Student> student_data)`	This function get the mean, min, max of all students' K3 ticks
`static java.lang.String[]`	**`get_student_k1_mmm`**`(java.util.List<Student> student_data)`	This function get the mean, min, max of all students' K1 value

Modifier and Type	Method	Description
static java.lang.String[]	get_student_k2_mmm (java.util.List<Student> student_data)	This function get the mean, min, max of all students' K2 value
static java.util.ArrayList<Statistics>	getStatistics (java.util.List<Student> studentData)	Populate the statistics stat_data, the ArrayList will contain number_of_student, K1mmm, K2mmm, K3_Tick1, K3_Tick2, My_preference, in order
static boolean	read(java.lang.String csvFile)	Read csv file

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Field Details

stat_data

```
public static final javafx.collections.ObservableList<Statistics> stat_data
```

List of statistics

student_data

```
public static final javafx.collections.ObservableList<Student> student_data
```

List of student information

delimiter

```
public static final java.lang.String delimiter
```

Delimiter for student name

See Also:

Constant Field Values

Constructor Details

InputManager

```
public InputManager()
```

Method Details

get_student_k1_mmm

```
public static java.lang.String[] get_student_k1_mmm(
java.util.List<Student> student_data)
```

This function get the mean, min, max of all students' K1 value

Parameters:

`student_data` - A list of Student objects

Returns:

A string array of elements mean, min, max in ascending order.

get_student_k2_mmm

```
public static java.lang.String[] get_student_k2_mmm(
java.util.List<Student> student_data)
```

This function get the mean, min, max of all students' K2 value

Parameters:

`student_data` - A list of Student objects

Returns:

A string array of elements mean, min, max in ascending order.

get_k3_ticks

```
public static java.lang.String[] get_k3_ticks(java.util.List<Student> student_data)
```

This function get the mean, min, max of all students' K3 ticks

Parameters:

`student_data` - A list of Student objects

Returns:

A string array of elements tick1_count, tick2_count, my_preference in ascending order.

read

```
public static boolean read(java.lang.String csvFile)
```

Read csv file

Parameters:

`csvFile` - A String of file name in the parent directory

Returns:

true if the csv file is successfully read, false otherwise

getStatistics

```
public static java.util.ArrayList<Statistics> getStatistics(
java.util.List<Student> studentData)
```

Populate the statistics stat_data, the ArrayList will contain number_of_student, K1mmm, K2mmm, K3_Tick1, K3_Tick2, My_preference, in order

Parameters:

`studentData` - list of student data

Returns:

statistics

Package comp3111G15

Class Library

java.lang.Object
    comp3111G15.Library

```
public class Library
extends java.lang.Object
```

The Library is the starting point of the application

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`Library()`	

Method Summary

All Methods | **Static Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`static void`	`main(java.lang.String[] args)`	The main method of the program

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

Library

```
public Library()
```

Method Details

main

```
public static void main(java.lang.String[] args)
```

The main method of the program

Parameters:

`args` - arguments

Package comp3111G15

Class LibraryTest

java.lang.Object
    comp3111G15.LibraryTest

```
public class LibraryTest
extends java.lang.Object
```

The LibraryTest is used for unit testing

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`LibraryTest()`	

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
void	`changeConcerns()`	Test for student concerns
void	`checkStatistics()`	Test for InputManager statistic
void	`checkUserLevelDialogResult()`	Test for RequestWindowController
void	`isATUEngineExecutedCorrectly()`	Test for ATUEngine
void	`isK1MMMEqual()`	Test for InputManager K1 mean, min, max
void	`isK2MMMEqual()`	Test for InputManager K2 mean, min, max
void	`isK3_tick1Equal()`	Test for InputManager K3 tick 1
void	`isK3_tick2Equal()`	Test for InputManager K3 tick 2
void	`isMemberListEqual()`	Test for team member list
void	`isMyPrefEqual()`	Test for InputManager preference
void	`isPasswordCorrect()`	Test for Security password
void	`isStudentEmailEqual()`	Test for student email
void	`isStudentIDEqual()`	Test for student id
void	`isStudentK1CompareEqual1()`	Test for student K1 compare - equal

Modifier and Type	Method	Description
void	**isStudentK1Equal**()	Test for student K1
void	**isStudentK1Larger**()	Test for student K1 compare - larger
void	**isStudentK1Smaller**()	Test for student K1 compare - smaller
void	**isStudentK2Equal**()	Test for student K2
void	**isStudentK3Tick1ReturnFalse**()	Test for student K3 tick 1 - false
void	**isStudentK3Tick2ReturnTrue**()	Test for student K3 tick 2 - true
void	**isStudentNameEqual**()	Test for student name
void	**isTeamEqual**()	Test for team
void	**isTeamIdEqual**()	Test for team id
void	**isTeamK1AverageEqual**()	Test for team K1
void	**isTeamK2AverageEqual**()	Test for team K2
void	**isTeamLeaderEqual**()	Test for team recommended leader
void	**setUp**()	Set up control variables

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

LibraryTest

```
public LibraryTest()
```

Method Details

setUp

```
public void setUp()
           throws java.lang.Exception
```

Set up control variables

Throws:

`java.lang.Exception` - exception

isTeamIdEqual

```
public void isTeamIdEqual()
```

Test for team id

isTeamLeaderEqual

```
public void isTeamLeaderEqual()
```

Test for team recommended leader

isTeamK1AverageEqual

```
public void isTeamK1AverageEqual()
```

Test for team K1

isTeamK2AverageEqual

```
public void isTeamK2AverageEqual()
```

Test for team K2

isMemberListEqual

```
public void isMemberListEqual()
```

Test for team member list

isTeamEqual

```
public void isTeamEqual()
```

Test for team

isStudentNameEqual

```
public void isStudentNameEqual()
```

Test for student name

isStudentIDEqual

```
public void isStudentIDEqual()
```

Test for student id

isStudentEmailEqual

```
public void isStudentEmailEqual()
```

Test for student email

isStudentK1Equal

```
public void isStudentK1Equal()
```

Test for student K1

isStudentK2Equal

```
public void isStudentK2Equal()
```

Test for student K2

isStudentK1Larger

```
public void isStudentK1Larger()
```

Test for student K1 compare - larger

isStudentK1Smaller

```
public void isStudentK1Smaller()
```

Test for student K1 compare - smaller

isStudentK1CompareEqual1

```
public void isStudentK1CompareEqual1()
```

Test for student K1 compare - equal

isStudentK3Tick1ReturnFalse

```
public void isStudentK3Tick1ReturnFalse()
```

Test for student K3 tick 1 - false

isStudentK3Tick2ReturnTrue

```
public void isStudentK3Tick2ReturnTrue()
```

Test for student K3 tick 2 - true

changeConcerns

```
public void changeConcerns()
```

Test for student concerns

checkStatistics

```
public void checkStatistics()
```

Test for InputManager statistic

isK1MMMEqual

```
public void isK1MMMEqual()
```

Test for InputManager K1 mean, min, max

isK2MMMEqual

```
public void isK2MMMEqual()
```

Test for InputManager K2 mean, min, max

isK3_tick1Equal

```
public void isK3_tick1Equal()
```

Test for InputManager K3 tick 1

isK3_tick2Equal

```
public void isK3_tick2Equal()
```

Test for InputManager K3 tick 2

isMyPrefEqual

```
public void isMyPrefEqual()
```

Test for InputManager preference

isPasswordCorrect

```
public void isPasswordCorrect()
```

Test for Security password

checkUserLevelDialogResult

```
public void checkUserLevelDialogResult()
```

Test for RequestWindowController

isATUEngineExecutedCorrectly

```
public void isATUEngineExecutedCorrectly()
```

Test for ATUEngine

Package comp3111G15

Class RequestWindowController

java.lang.Object
    comp3111G15.RequestWindowController

```
public class RequestWindowController
extends java.lang.Object
```

The RequestWindowController describes the components used for the starting window of the ATU system.

Author:

SzeWingKwan, LiChunTak, HE Qihao

Field Summary

Fields

Modifier and Type	Field	Description
`static java.lang.String[]`	`levels`	two levels of users, Student or TA

Constructor Summary

Constructors

Constructor	Description
`RequestWindowController()`	

Method Summary

All Methods | Static Methods | Instance Methods | Concrete Methods

Modifier and Type	Method	Description
`static void`	`displayIncorrectFilenameDialog (java.lang.String filename)`	Display a error dialog for when the .csv filename does not exist.
`void`	`initialize()`	Initialize the application with user authentication and display UI window
`static java.util.ArrayList<java.lang.Boolean>`	`onDialogGetResult (java.lang.String result)`	Get the result of the dialog which asks for user level

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Field Details

levels

`public static java.lang.String[] levels`

two levels of users, Student or TA

Constructor Details

RequestWindowController

`public RequestWindowController()`

Method Details

initialize

`public void initialize()`

Initialize the application with user authentication and display UI window

onDialogGetResult

`public static java.util.ArrayList<java.lang.Boolean> onDialogGetResult(java.lang.String result)`

Get the result of the dialog which asks for user level

Parameters:

`result` - from the dialog

Returns:

temporary boolean list, first element: If TA return true, else false, second element: If csv read successful return true, else false

displayIncorrectFilenameDialog

`public static void displayIncorrectFilenameDialog(java.lang.String filename)`

Display a error dialog for when the .csv filename does not exist.

Parameters:

`filename` - incorrect filename

Package comp3111G15

Class Security

java.lang.Object
    comp3111G15.Security

```
public class Security
extends java.lang.Object
```

The Security checks password validation

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`Security()`	

Method Summary

All Methods | **Static Methods** | **Concrete Methods**

Modifier and Type	Method	Description
static boolean	checkPW (java.lang.String input)	Check input password against the default password

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Details

Security

```
public Security()
```

Method Details

checkPW

```
public static boolean checkPW(java.lang.String input)
```

Check input password against the default password

Parameters:

`input` - String of input

Returns:

true if match, false otherwise

Package comp3111G15

Class Statistics

java.lang.Object
    comp3111G15.Statistics

```
public class Statistics
extends java.lang.Object
```

The Statistics shows table for students information

Author:

LiChunTak

Constructor Summary

Constructors

Constructor	Description
`Statistics(int index, java.lang.String fName, java.lang.String lName)`	Constructor of Statistics

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`java.lang.String`	`getEntry()`	Get entry of Statistics in a string
`java.lang.String`	`getIndex()`	Get index of Statistics in a string
`java.lang.String`	`getValue()`	Get value of Statistics in a string
`void`	`setEntry(java.lang.String val)`	Set entry of Statistics
`void`	`setIndex(java.lang.String val)`	Set index of Statistics
`void`	`setValue(java.lang.String val)`	Set value of Statistics

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

Statistics

```
public Statistics(int index,
                  java.lang.String fName,
                  java.lang.String lName)
```

Constructor of Statistics

Parameters:

`index` - index

`fName` - first name

`lName` - last name

Method Details

getIndex

```
public java.lang.String getIndex()
```

Get index of Statistics in a string

Returns:

String

setIndex

```
public void setIndex(java.lang.String val)
```

Set index of Statistics

Parameters:

`val` - index

getEntry

```
public java.lang.String getEntry()
```

Get entry of Statistics in a string

Returns:

String

setEntry

```
public void setEntry(java.lang.String val)
```

Set entry of Statistics

Parameters:

`val` - entry

getValue

```
public java.lang.String getValue()
```

Get value of Statistics in a string

Returns:

String

setValue

```
public void setValue(java.lang.String val)
```

Set value of Statistics

Parameters:

`val` - value

Package comp3111G15

Class StatisticsTableController

java.lang.Object
    comp3111G15.StatisticsTableController

```
public class StatisticsTableController
extends java.lang.Object
```

The StatisticTableController controls the window for displaying statistics table

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`StatisticsTableController()`	

Method Summary

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

StatisticsTableController

```
public StatisticsTableController()
```

Package comp3111G15

Class Student

java.lang.Object
    comp3111G15.Student

All Implemented Interfaces:

`java.lang.Comparable<Student>`

```
public class Student
extends java.lang.Object
implements java.lang.Comparable<Student>
```

The Student contains all information used for teaming up.

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`Student(int index, java.lang.String student_id, java.lang.String student_name, java.lang.String email, java.lang.String k1_energy, java.lang.String k2_energy, java.lang.String k3_tick1, java.lang.String k3_tick2, java.lang.String my_preference, java.lang.String concerns)`	Class constructor

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`int`	`compareTo(Student other)`	The method used for sorting the students in a list in descending K1 order.
`java.lang.String`	`getConcerns()`	Gets concerns
`java.lang.String`	`getIndex()`	Gets index
`java.lang.String`	`getK1Energy()`	Gets K1 energy in String
`int`	`getK1Energy_int()`	Gets K1 energy in integer
`java.lang.String`	`getK2Energy()`	Gets K2 energy in String
`int`	`getK2Energy_int()`	Gets K2 energy in integer
`java.lang.String`	`getK3Tick1()`	Gets K3 tick 1 in String
`boolean`	`getK3Tick1_bool()`	Gets K3 tick 1

Modifier and Type	Method	Description
java.lang.String	**getK3Tick2**()	Gets K3 tick 2 in String
boolean	**getK3Tick2_bool**()	Gets K3 tick 2
java.lang.String	**getMyPreference**()	Gets my preference
java.lang.String	**getStudentEmail**()	Gets student email
java.lang.String	**getStudentID**()	Gets student ID
java.lang.String	**getStudentName**()	Gets student name
void	**setConcerns**(java.lang.String val)	Sets concerns
void	**setIndex**(java.lang.String val)	Sets index
void	**setK1Energy**(java.lang.String val)	Sets K1 energy
void	**setK2Energy**(java.lang.String val)	Sets K2 energy
void	**setK3Tick1**(java.lang.String val)	Sets K3 tick 1
void	**setK3Tick2**(java.lang.String val)	Sets K3 tick 2
void	**setMyPreference**(java.lang.String val)	Sets my preference
void	**setStudentEmail**(java.lang.String val)	Sets student email
void	**setStudentID**(java.lang.String val)	Sets student ID
void	**setStudentName**(java.lang.String val)	Sets student name

Methods inherited from class java.lang.Object

equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Details

Student

```
public Student(int index,
               java.lang.String student_id,
               java.lang.String student_name,
               java.lang.String email,
               java.lang.String k1_energy,
               java.lang.String k2_energy,
               java.lang.String k3_tick1,
               java.lang.String k3_tick2,
               java.lang.String my_preference,
               java.lang.String concerns)
```

Class constructor

Parameters:

`index` - index

`student_id` - student ID

`student_name` - student name

`email` - student email

`k1_energy` - K1 energy

`k2_energy` - K2 energy

`k3_tick1` - whether is creative and participate aggressively

`k3_tick2` - whether is willing to take more workloads

`my_preference` - my preference to be the leader

`concerns` - concerns/comments

Method Details

compareTo

```
public int compareTo(Student other)
```

The method used for sorting the students in a list in descending K1 order.

Specified by:

`compareTo` in interface `java.lang.Comparable<Student>`

getK1Energy_int

```
public int getK1Energy_int()
```

Gets K1 energy in integer

Returns:

K1 energy

getK2Energy_int

```
public int getK2Energy_int()
```

Gets K2 energy in integer

Returns:

K2 energy

getK3Tick1_bool

```
public boolean getK3Tick1_bool()
```

Gets K3 tick 1

Returns:

true/false

getK3Tick2_bool

```
public boolean getK3Tick2_bool()
```

Gets K3 tick 2

Returns:

true/false

getIndex

```
public java.lang.String getIndex()
```

Gets index

Returns:

index

setIndex

```
public void setIndex(java.lang.String val)
```

Sets index

Parameters:

`val` - for index

getStudentID

```
public java.lang.String getStudentID()
```

Gets student ID

Returns:

student ID

setStudentID

```
public void setStudentID(java.lang.String val)
```

Sets student ID

Parameters:

`val` - for student ID

getStudentName

```
public java.lang.String getStudentName()
```

Gets student name

Returns:

student name

setStudentName

```
public void setStudentName(java.lang.String val)
```

Sets student name

Parameters:

`val` - for student name

getStudentEmail

```
public java.lang.String getStudentEmail()
```

Gets student email

Returns:

student email

setStudentEmail

```
public void setStudentEmail(java.lang.String val)
```

Sets student email

Parameters:

`val` - for student email

getK1Energy

```
public java.lang.String getK1Energy()
```

Gets K1 energy in String

Returns:

K1 energy

setK1Energy

```
public void setK1Energy(java.lang.String val)
```

Sets K1 energy

Parameters:

`val` - for K1 energy

getK2Energy

```
public java.lang.String getK2Energy()
```

Gets K2 energy in String

Returns:

K2 energy

setK2Energy

```
public void setK2Energy(java.lang.String val)
```

Sets K2 energy

Parameters:

`val` - for K2 energy

getK3Tick1

```
public java.lang.String getK3Tick1()
```

Gets K3 tick 1 in String

Returns:

1/0

setK3Tick1

```
public void setK3Tick1(java.lang.String val)
```

Sets K3 tick 1

Parameters:

`val` - for K3 tick 1

getK3Tick2

```
public java.lang.String getK3Tick2()
```

Gets K3 tick 2 in String

Returns:

1/0

setK3Tick2

```
public void setK3Tick2(java.lang.String val)
```

Sets K3 tick 2

Parameters:

`val` - for K3 tick 2

getMyPreference

```
public java.lang.String getMyPreference()
```

Gets my preference

Returns:

1/0

setMyPreference

```
public void setMyPreference(java.lang.String val)
```

Sets my preference

Parameters:

`val` - for my preference

getConcerns

```
public java.lang.String getConcerns()
```

Gets concerns

Returns:

concerns

setConcerns

```
public void setConcerns(java.lang.String val)
```

Sets concerns

Parameters:

`val` - for concerns

Package comp3111G15

Class StudentTableController

java.lang.Object
    comp3111G15.StudentTableController

```
public class StudentTableController
extends java.lang.Object
```

The StudentTableController controls the window displaying the student information table

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`StudentTableController()`	

Method Summary

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

StudentTableController

```
public StudentTableController()
```

Package comp3111G15

Class Team

java.lang.Object
    comp3111G15.Team

```
public class Team
extends java.lang.Object
```

The Team contains all information for one team

Author:

SzeWingKwan

Constructor Summary

Constructors

Constructor	Description
`Team(int id, java.util.List<Student> members, int leader)`	Class constructor

Method Summary

All Methods | **Instance Methods** | **Concrete Methods**

Modifier and Type	Method	Description
`int`	`getID()`	Gets team ID
`double`	`getK1Average()`	Gets average K1 energy
`double`	`getK2Average()`	Gets average K2 energy
`Student`	`getLeader()`	Gets recommended leader
`java.util.List<Student>`	`getMemberList()`	Gets team member list
`void`	`sortMember()`	The method sorts the team member list in descending K1 order.

Methods inherited from class java.lang.Object

`equals, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait`

Constructor Details

Team

```
public Team(int id,
            java.util.List<Student> members,
            int leader)
```

Class constructor

Parameters:

`id` - team ID

`members` - team member list

`leader` - recommended leader

Method Details

sortMember

```
public void sortMember()
```

The method sorts the team member list in descending K1 order.

getID

```
public int getID()
```

Gets team ID

Returns:

team ID

getMemberList

```
public java.util.List<Student> getMemberList()
```

Gets team member list

Returns:

team member list

getLeader

```
public Student getLeader()
```

Gets recommended leader

Returns:

recommended leader

getK1Average

```
public double getK1Average()
```

Gets average K1 energy

Returns:

average K1 energy

getK2Average

```
public double getK2Average()
```

Gets average K2 energy

Returns:

average K2 energy

Uses of Package comp3111G15

Classes in comp3111G15 used by comp3111G15

Class	Description
Statistics	The Statistics shows table for students information
Student	The Student contains all information used for teaming up.
Team	The Team contains all information for one team

Uses of Class comp3111G15.Statistics

Uses of Statistics in comp3111G15

Fields in comp3111G15 with type parameters of type Statistics

Modifier and Type	Field	Description
`static javafx.collections.ObservableList<Statistics>`	InputManager.`stat_data`	List of statistics

Methods in comp3111G15 that return types with arguments of type Statistics

Modifier and Type	Method	Description
`static java.util.ArrayList<Statistics>`	InputManager.`getStatistics (java.util.List<Student> studentData)`	Populate the statistics stat_data, the ArrayList will contain number_of_student, K1mmm, K2mmm, K3_Tick1, K3_Tick2, My_preference, in order

Uses of Class comp3111G15.Student

Uses of Student in comp3111G15

Fields in comp3111G15 with type parameters of type Student

Modifier and Type	Field	Description
static javafx.collections.ObservableList<Student>	InputManager.student_data	List of student information

Methods in comp3111G15 that return Student

Modifier and Type	Method	Description
Student	Team.getLeader()	Gets recommended leader

Methods in comp3111G15 that return types with arguments of type Student

Modifier and Type	Method	Description
java.util.List<Student>	Team.getMemberList()	Gets team member list

Methods in comp3111G15 with parameters of type Student

Modifier and Type	Method	Description
int	Student.compareTo (Student other)	The method used for sorting the students in a list in descending K1 order.

Method parameters in comp3111G15 with type arguments of type Student

Modifier and Type	Method	Description
void	ATUEngine.Create_Team (java.util.List<Student> studentData)	Create teams and put students from K1_list, K2_list and K3_list in each of them.
static java.lang.String[]	InputManager.get_k3_ticks (java.util.List<Student> student_data)	This function get the mean, min, max of all students' K3 ticks
static java.lang.String[]	InputManager.get_student_k1_mmm (java.util.List<Student> student_data)	This function get the mean, min, max of all students' K1 value
static java.lang.String[]	InputManager.get_student_k2_mmm (java.util.List<Student> student_data)	This function get the mean, min, max of all students' K2 value

Modifier and Type	Method	Description
static java.util.ArrayList<Statistics>	InputManager.getStatistics (java.util.List<Student> studentData)	Populate the statistics stat_data, the ArrayList will contain number_of_student, K1mmm, K2mmm, K3_Tick1, K3_Tick2, My_preference, in order

Constructor parameters in comp3111G15 with type arguments of type Student

Constructor	Description
ATUEngine (java.util.List<Student> studentData)	Class constructor, calls Create_Team() method to produce team-up results.
Team(int id, java.util.List<Student> members, int leader)	Class constructor

Uses of Class comp3111G15.Team

Uses of Team in comp3111G15

Fields in comp3111G15 with type parameters of type Team

Modifier and Type	Field	Description
`java.util.List<Team>`	**ATUEngine.ATU_Team**	List of team

Methods in comp3111G15 that return types with arguments of type Team

Modifier and Type	Method	Description
`java.util.List<Team>`	**ATUEngine.getTeamlist()**	Accessor that returns team-up results.