

Package [ATU](#)

Class ATUEngine

java.lang.Object
ATU.ATUEngine

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

Each ATUEngine is associated to one courseProject/request for teaming up,
and produce one record for that courseProject
The resultant ATU record is stored in teamList of this ATUEngine

Nested Class Summary

Nested Classes		
Modifier and Type	Class	Description
static class	ATUEngine.ResultTeam	class dedicated for showResultTable()

Constructor Summary

Constructors	
Constructor	Description
ATUEngine (int total)	Constructor

Method Summary

All Methods	Static Methods	Instance Methods	Concrete Methods
Modifier and Type	Method		Description
java.util.ArrayList<Team>	getTeamList ()		
static boolean	jsonStillExist (java.lang.String filePath)		Unit function for checking if the required json file still exists before loading User may accidentally delete the required file during program runtime

Modifier and Type	Method	Description
java.lang.String	<code>outputJson(java.lang.String filePath)</code>	output the result of team formation i.e.teamList to a json format file each json file store an array of teams, where each team has info including team members
void	<code>printResult()</code>	print the team forming result, i.e. print all teams info
void	<code>readFromJson(java.lang.String filePath)</code>	read previous ATU record from parsing a .json to this ATUEngine object i.e. to set the teamList result array
void	<code>run (java.util.ArrayList<Student> studentsArr)</code>	Forming teams for all students, result of team formation is stored in Team array teamList.
void	<code>showResultTable (javafx.stage.Stage parentStage, javafx.stage.Stage stage, java.lang.String courseName, java.lang.String projectName, java.lang.String jsonText)</code>	show the result as javaFX TableView in the new stage

Methods inherited from class java.lang.Object

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

Constructor Details

ATUEngine

public ATUEngine(int total)

Constructor

Parameters:

total - total number of students assumed to perform teaming

Method Details

run

```
public void run(java.util.ArrayList<Student> studentsArr)
```

Forming teams for all students, result of team formation is stored in Team array teamList.

Student with highest k1_energy in the team is assigned as leader.

Parameters:

studentsArr - the array of students obtained from StuPi.csv

getTeamList

```
public java.util.ArrayList<Team> getTeamList()
```

printResult

```
public void printResult()
```

print the team forming result, i.e. print all teams info

outputJson

```
public java.lang.String outputJson(java.lang.String filePath)
```

output the result of team formation i.e.teamList to a json format file
each json file store an array of teams, where each team has info including team members

Parameters:

filePath - the path of json output file

Returns:

the string of json data, null if no team is formed

jsonStillExist

```
public static boolean jsonStillExist(java.lang.String filePath)
```

Unit function for checking if the required json file still exists before loading
User may accidentally delete the required file during program runtime

Parameters:

filePath - path of the json record

Returns:

true if file exists, otherwise false

readFromJson

```
public void readFromJson(java.lang.String filePath)
```

read previous ATU record from parsing a .json to this ATUEngine object
i.e. to set the teamList result array

Parameters:

filePath - the path of the json file to be parsed

showResultTable

```
public void showResultTable(javafx.stage.Stage parentStage,  
                             javafx.stage.Stage stage,  
                             java.lang.String  courseName,  
                             java.lang.String  projectName,  
                             java.lang.String  jsonText)
```

show the result as javaFX TableView in the new stage

Parameters:

parentStage - parent stage of this upcoming stage showing ATU result

stage - the javaFX stage for showing the table onto

courseName - name of course that the project belongs to

projectName - name of project this ATU perform on

jsonText - string of json data to be uploaded online, null is passed for Review process