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| **Student** |
| - firstName: String  - lastName: String  - gender: String (“M” or “F”) |
| + Student()  + getFirstName():String  +getLastName():String  + getGender():String  + setFirstName(firstName:String):void  + setLastName(lastName:String):void  + setGender(gender:String):void  + checkStudent(stu1:Student):boolean  + toString():String |

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| **Group** |
| - studentList: Student[] |
| + Group()  +Group(studentOptionsFile:File)  + addStudent(stu1:Student):void  + removeStudent(stu1:Student):boolean  + addStudent(firstName:String, lastName:String):void  + removeStudent(firstName:String, lastName:String):boolean  +getStudent(index:int):Student  + containsStudent():boolean  + getNumberFemalesInGroup():int  + getNumberMalesInGroup():int  + toString():String |

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| **GroupList** |
| - groupList: Group[] |
| + GroupList()  + addGroup(grp1:Group):void  +getGroup(index:int):Group  + findStudent(stu1:Student):int  + findStudent(firstName:String, lastName:String):int  + getNumGroups():int  + toString():String |

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| **GroupListApp** |
| - numGroups: int  - groupSize: int  - numFemales: int  - numMales: int  - genderBiased: boolean |
| + GroupListApp()  + createGroupList(studentListFile:File, lastGroupFile:File):GroupList  + createGroupList(studentList:Group, lastGroup:GroupList):GroupList  + setGenderLimits(studentList:Group):void  + correctNumbers(grp:Group, stu1:Student):boolean  + calcNumGroups(groupSize:int, fullGroupSize:int):void  + calcGroupSize(numGroups:int, fullGroupSize:int):void  +setNumGroups(numGroups:int):void  +setGroupSize(groupSize:int):void  +getNumGroups():int  +getGroupSize():int  +getNumFemales():int  +getNumMales():int  +getNumGroups():int  +getBiased():boolean  +setBiased(gender:boolean):void |

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| **GroupCreatorGUI** |
| - GroupCreatorSortPanel: GroupCreatorSortPanel  - uploadPanel: UploadPanel  - buttonPanel:JPanel  - groupListApp: GroupListApp  - createGroupButton:JButton  - backButton:JButton  -fc:JFileChooser  -currentFile: File |
| + GroupCreatorGUI(studentOptionsFile:File)  - buildButtonPanel():void |

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| * **CreateGroupButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **BackButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **GroupCreatorSortPanel** |
| - studentsPerGroup: JRadioButton  -groups:JRadioButton  - gender:JCheckBox  - bgSort:ButtonGroup  - groupListApp:GroupListApp |
| + GroupCreatorSortPanel() |

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| * **StudentNumberListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **GroupNumberListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **GenderListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **RemoveStudentGUI** |
| - fNamePanel: JPanel  - fNameLabel:JLabel  - fNameField:JTextField  - fName: String  - lNamePanel: JPanel  - lNameLabel:JLabel  - lNameField:JTextField  - lName: String  - buttonPanel:JPanel  - removeButton:JButton  - cancelButton:JButton  - removeStudentList:Group |
| + RemoveStudentGUI(studentList:Group)  + buildFirstNamePanel():void  + buildLastNamePanel():void  + buildButtonPanel():void |

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| * **RemoveListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **CancelListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **FileChooserGUI** |
| - buttonPanel: JPanel  - createButton:JButton  - loadExistingButton:JButton  - filePanel: JPanel  - blankLabel:JLabel  - fileLabel:JLabel  - fileField:JTextField  - newFile: File  - outl:PrintWriter |
| + FileVhooserGUI()  + buildButtonPanel():void  + buildFilePanel():void |

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| * **CreateButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **LoadExistingListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **AddStudentGUI** |
| - fNamePanel: JPanel  - fNameLabel:JLabel  - fNameField:JTextField  - fName: String  - lNamePanel: JPanel  - lNameLabel:JLabel  - lNameField:JTextField  - lName: String  - buttonPanel:JPanel  - addButton:JButton  - cancelButton:JButton  - genderPanel:JPanel  - genderButtonGroup:ButtonGroup  - male: JRadioButton  - female: JRadioButton  - gender:String  - addStudentList:Group |
| + AddStudentGUI(studentList:Group)  + buildFirstNamePanel():void  + buildLastNamePanel():void  + buildGenderPanel():void  + buildButtonPanel():void |

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| * **AddStudentListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **CancelListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **GroupListGUI** |
| - groupListPanel: JPanel  - buttonPanel:Jpanel  - groupList: GroupList  - groupListTextArea: JTextArea  - scroll:JScrollPane  - saveButton: JButton  - backButton:JButton |
| + GroupListGUI()  + buildGroupList():void  + buildButtonPanel():void |

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| * **SaveButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **BackButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| **UploadPanel** |
| - groupListApp: GroupListApp  - groupListPanel:JPanel  - blankLabel:JLabel  - groupListLabel: JLabel  - groupListFileField:JTextArea  - uploadLabel:JLabel  - uploadButton:JLabel  - fileChoose:JFileChooser  - newFile:File  - out:Printwriter |
| + UploadPanel()  + buildGroupFilePanel():void  + setGroupListFileField(text:String):void  + getGroupPreviousFile():File |

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| * **UploadButtonListener** |
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| + actionPerformed(e:ActionEvent):void |

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| * **CancelListener** |
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| + actionPerformed(e:ActionEvent):void |