```
package Library;

public class Student {

		private String name;
		private int absences;

		public Student (String n, int abs) {
			name = n;
			absences = abs;
		}

		public String getName () {
			return this.name;
		}

		public int getAbsenceCount() {
			return this.absences;
		}

		public String toString() {
			return this.name + ", " + this.absences;
		}

}
package Library;

import java.util.ArrayList;

public class SeatingChart {
	private Student [][] seats;


	public SeatingChart (ArrayList <Student> studentList, int rows, int cols) {

		seats = new Student [rows][cols];
		int counter = 0;
		for (int c = 0; c < cols; c++) {
			for (int r = 0; r < rows; r++) {
				if (counter < studentList.size()) {
					seats[r][c] = studentList.get(counter);
				}
				else {
					seats[r][c] = null;
				}
				counter++;
			}
		}
	}

	public int removeAbsentStudents (int allowedAbs) {
		int counter = 0;
		for (int r = 0; r < seats.length; r++) {
			for (int c = 0; c < seats[r].length; c++) {
```

```
                                        if (seats[r][c]!= null && seats[r][c].getAbsenceCount() > allowedAbs) {
                                                seats[r][c] = null;
                                                counter ++;
                                        }
                                }
                        }

                        return counter;
                }

                public boolean switchSeats (int RowA, int ColA, int RowZ, int ColZ) {
                        Student temp = seats[RowA][ColA];
                        seats[RowA][ColA] = seats[RowZ][ColZ];
                        seats[RowZ][ColZ] = temp;

                        if (seats[RowA][ColA] == null && seats[RowZ][ColZ] == null) {
                                return false;
                        }

                        return true;

                }

                public boolean isValidRow (int r) {
                        if (r >= seats.length) {
                                return false;
                        }

                        return true;
                }

                public boolean isValidCol (int c) {
                        for (int r = 0; r < seats.length; r++) {
                                if (c >= seats[r].length) {
                                        return false;
                                }
                        }

                        return true;
                }

                public String toString() {
                        String ret = "";
                        for (int r = 0; r < seats.length; r++) {
                                for (int c = 0; c < seats[r].length; c++) {
                                        ret += seats[r][c] + " " + r + " " + c + " ";
                                }
                                ret += "\n";
                        }
                        return ret;
                }


}
```

```
package Library;
import java.util.*;
public class SeatingChartTester {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

		ArrayList<Student> Juniors21 = new ArrayList <Student> ();

		Juniors21.add(new Student ("Anna", 3));
		Juniors21.add(new Student ("Ben", 1));
		Juniors21.add(new Student ("Caren", 4));
		Juniors21.add(new Student ("David", 1));
		Juniors21.add(new Student ("Evan", 5));
		Juniors21.add(new Student ("Fran", 9));
		Juniors21.add(new Student ("Gina", 2));
		Juniors21.add(new Student ("Holly", 6));
		Juniors21.add(new Student ("Irene", 1));
		Juniors21.add(new Student ("Justin", 3));

		SeatingChart room213 = new SeatingChart (Juniors21, 3, 4);
		room213.removeAbsentStudents(4);
		room213.switchSeats (2,0,0,3);
		room213.switchSeats (1,3,2,2);
		room213.switchSeats (1,1,2,2);
		System.out.print(room213);



	}

}
```