

Exercise: GradeList, version 2

GradeList
- grades : int[] - actualNumberOfGrades : int + LEGAL_GRADES : int[] = { 12, 10, 7, 4, 2, 0, -3 }
+ GradeList(maxNumberOfGrades : int) + size() : int + addGrade(grade : int) : void + addGrade(index : int, grade : int) : void + removeGrade(index : int) : void + getGrade(index : int) : int + getMaxGrade() : int + getMinGrade() : int + getAverage() : double + getGradeCount(grade : int) : int + getGradeDistribution() : String + toString() : String + equals(obj : Object) : boolean + isLegalGrade(grade : int) : boolean

Create a new module `GradeList_v2` and copy the files from `GradeList_v1`

Modify class `GradeList` with:

- A method `removeGrade` removing the grade at the index specified. Removing is shifting elements one down from `index` to the last added element.
- A method `addGrade` taking two arguments; an index and the grade. The element is added at the index specified, first by shifting elements one up to make room for the new element (*note that you should loop downwards*)

Update your test program `GradeListTest` such that you also test the following:

- That you can remove the first grade (index: 0)
- That you can remove the last element (index: `size()-1`)
- That you can remove somewhere in the middle, e.g. index 2
- That you can add at index 0
- That you can add after the last index (index: `size()`)
- That you can add somewhere in the middle, e.g. index 2