Exercise SDJ1

Exercise: Grade

Grade

grade : int

+ Grade(grade : int)

+ Grade(ectsGrade : String)

+ getGrade(): int

+ getEctsGrade(): String

+ toString(): void

The class Grade shown in the class diagram above represents a grade in the Danish 7-scale (i.e. either 12, 10, 7, 4, 2, 0, or -3). The equivalent grades in the international ECTS scale are: {A, B, C, D, E, Fx, F}.

Create a class Grade storing a grade (in the Danish 7-scale). The class has:

- a) One instance variable of type int representing the grade in the Danish 7-scale.
- b) A constructor taking an integer representing the grade in the Danish 7-scale. If the argument is not a legal grade then store -3 in the instance variable.
- c) A constructor taking a string representing the ECTS grade, i.e. one of the following: $\{"A", "B", "C", "D", "E", "Fx", "F"\}$. Convert the ECTS grade to the equivalent Danish 7-scale to store in the instance variable. If the input is not a legal ECTS grade then store -3 in the instance variable.
- d) A method getGrade returning the grade (in the Danish 7-scale).
- e) A method getEctsGrade converting the grade into the equivalent ECTS grade and return this.
- f) A method toString returning a sting with the grade both in the Danish 7-scale and in the international ECTS scale.

Implement a test class GradeTest and test both constructors and all methods.