Addis Ababa Institute of Technology

School of Information Technology and Engineering

Classes and Inheritance

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# GradedActivity

This class is a parent class that stores score and returns grade. It has small number of functions that are common for any graded activity. Anything that can be scored such as test, exam and assignments can inherit from it use its grading and score functionality. Here FinalExam3 class inherits from GradedActivity.

The getGrade method returns a character representation of score.

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| Grade | Score |
| A | >83 |
| B | Between 67 and 83 |
| C | Between 55 and 67 |
| D | Between 40 and 55 |
| E | < 40 |

# Relatable

This interface defines interface methods that should be implemented by any class with comparable objects. For example graded activity or its subclasses can implement it to compare the score or grade of itself with other object.

# FinalExam3

This class represents one type of graded activity, final exams. Hence, it inherits from GradedActivity. It also implements Relatable so that users can compare the score of final exams.

When creating a FinalExam3 object we should give it total number of questions, number of missed questions and points of each questions. The constructor initializes these fields. It also initializes its score by using the parent class setScore method to ‘(numQuestions – numMissed) \* pointsEach’.

FinalExam3 implements the Relatable interface methods by comparing the score of GradedActivity object with its own score. It uses the methods inherited from GradedActivity to get and set score.

* isLess – returns true if final exam score is less than the score of passed graded activity, false otherwise
* isGreater – returns true if final exam score is greater than the score of passed graded activity, false otherwise
* equals – returns true if final exam score is equal to the score of passed graded activity