Dr. Wolfgang Emmerich   3-Apr-05
Dept. of Computer Science
University College London
Pearson Building Room 105

3C05 Advanced Software Engineering

Problem Class 2

Your company decides to economize on license expenditure for software engineering tools. As part of that effort, the E/R modelling tool currently in use is to be discontinued and you are being asked to devise a mechanism to use the same notation and tool for database modelling that is in use for object-oriented analysis and design. You find that that is quite feasible and decide to define a UML profile for data modelling that supports defining relational data models using entity relationship diagrams.

Question 1.1

Identify UML meta model elements that you are going to use for the following entity relationship modelling constructs:
- Schema
- Entity
- Relationship
- Attribute

Question 1.2

Define appropriate UML stereotypes for your profile.

Question 1.3

Define the following constraints for the UML profile as OCL expressions formed on the UML meta model.
- Entities do not have any operations
- There is at most one primary key attribute per entity