Problem

A student management system stores data about students. There are two kinds of university students: resident students and non-resident students. Both kinds of students have a name and a list of registered courses. Both kinds of students are restricted to register for no more than 10 courses. When calculating the tuition for a student, a base amount is first determined from the list of courses they are currently registered (each course has an associated fee). For a non-resident student, there is a discount rate applied to the base amount to waive the fee for on-campus accommodation. For a resident student, there is a premium rate applied to the base amount to account for the fee for on-campus accommodation and meals.

Task: Design classes that satisfy the above problem statement.

Requirements: At runtime:

– A student management system stores a collection of (all kinds of) students.

– Each type of student is able to register a course and calculate their tuition fee.

Design Principles to Consider:

– Cohesion

– Single Choice Principle

Constraint. You are **not** allowed to use inheritance.