

05 – Inheritance - Exercises

OBJECT-ORIENTED PROGRAMMING

EXERCISE 1

- ✗ A university has a records system to store and retrieve information about its staff and students.
- ✗ Typically, records are added and viewed.
- ✗ Staff have a name, address, employee number and department
- ✗ Students have a name, address, matriculation number and course name.
 1. **Construct a class diagram for this record system.**
 2. **Develop code for each class and a suitable application to exercise them.**

EXERCISE 2

- ✗ A bank:
 - + ordinary account
 - + current account
- ✗ Account:
 - + account number
 - + current balance
 - + withdrawals from
 - + deposit funds into
 - + enquire as to the current balance
- ✗ current account: overdraft limit
 1. **Construct a class diagram for the bank accounts.**
 2. **Develop code for each class and a suitable application to exercise them.**

EXERCISE 3

- ✕ Academic staff in a university:
 - + A lecturer does a small amount of research
 - + A senior lecturer does a moderate amount of research and some administration
 - + A reader does a lot of research but no administration
 - + A professor does a lot of research and some administration
- 1. **Construct a class diagram for academic staff**
- 2. **Develop code for each class using polymorphism effect and a suitable application to exercise them**