P1: University

→ In a university, there are different classrooms, offices and departments. A department has a name and it contain many offices. A person working at the university has a unique ID and can be a professor an employee.

→ A professor can be a full, associate or assistant professor and he/she is enrolled in one department.

→ Offices and classrooms have a number ID, and a classroom has a number of seats.

→ every employee works in an office.

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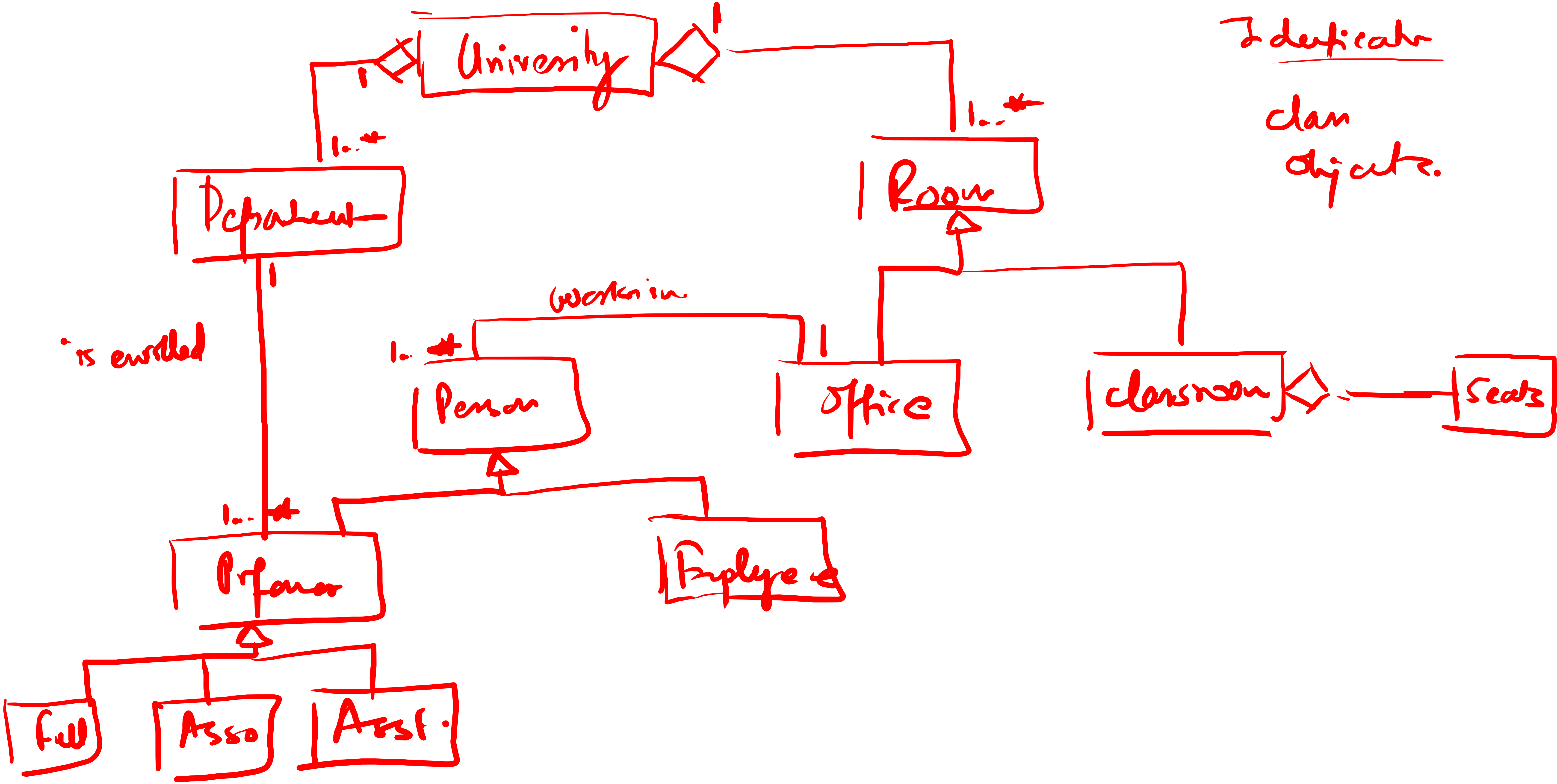
Identification

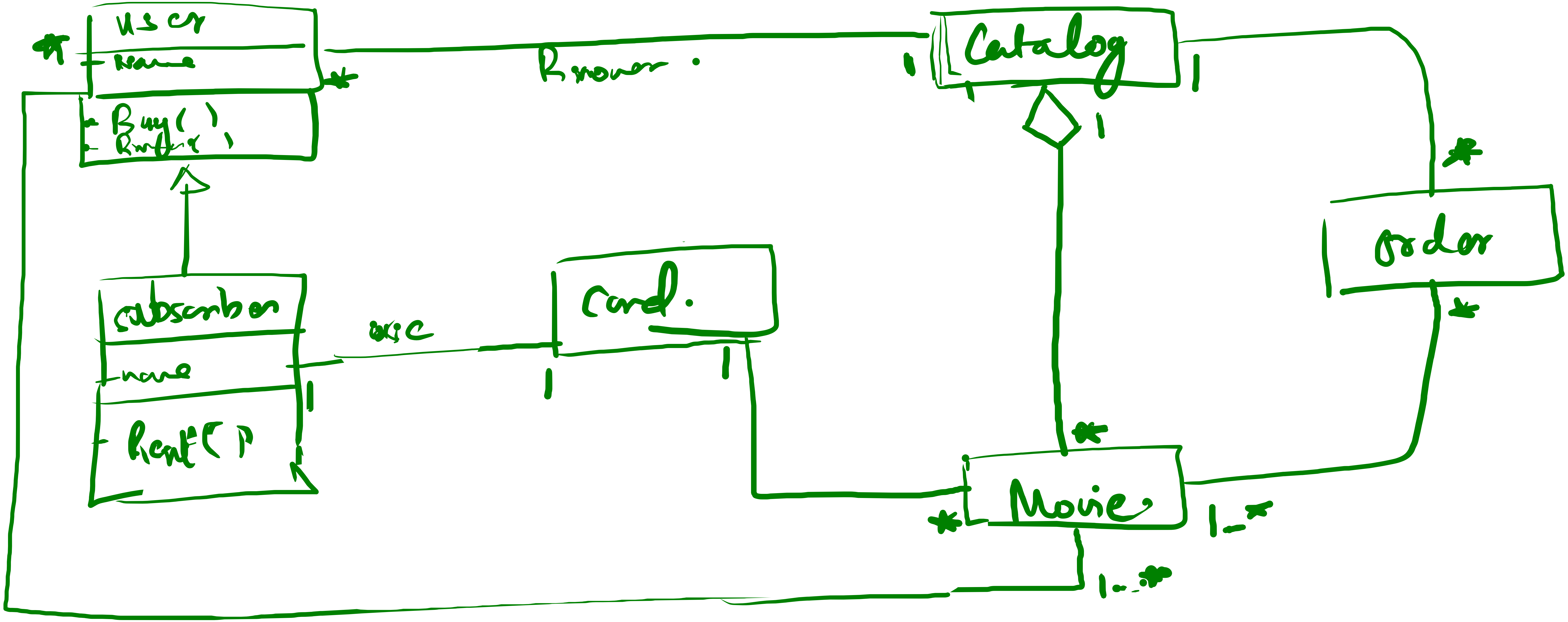
class

objects.



P2: Movie-shop.

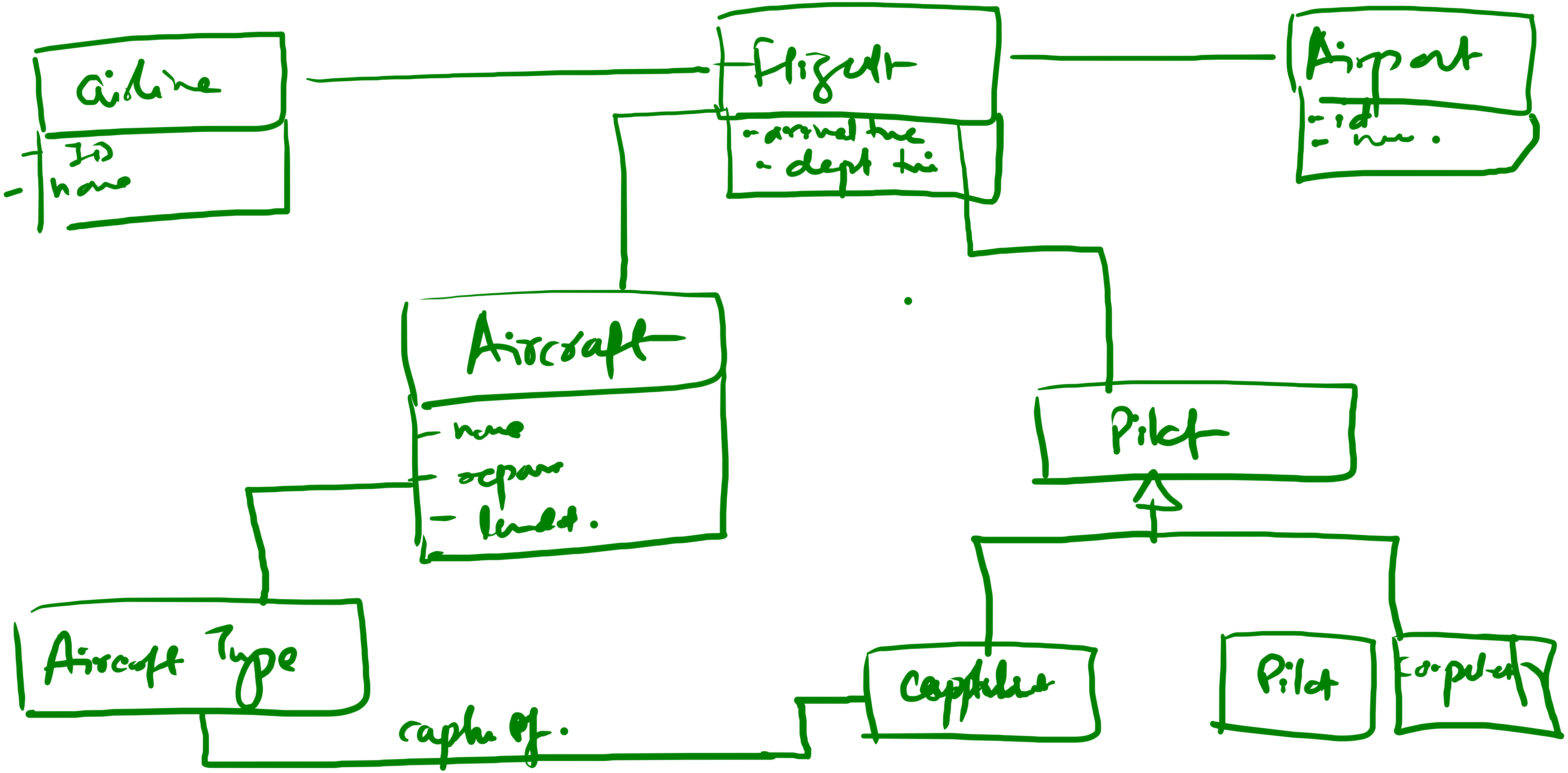
- Design a system for a movie-shop, in order to handle ordering of movies and browsing of the catalog of the store, and users subscriptions with rechargable cards.
- Only Subscribers are allowed living movies with their own card.
- Credit is updated on the card during rent operations.
- Both Users and subscribers can buy a movie and their data are saved in the related order.
- when a movie is not available it is ordered.


User
Catalog
Order
Card.
Subscriber
Movie
Rent( )
1
*
1..*

P3: Flights

- We want to model a system for managent of flights and pilots.
  An airline operates flights. Each airline has an ID.
- Each flight has an ID, a departure airport and an arrival airport:
  an airport has a unique identifier
- Each flight has a pilot and a co-pilot, and it uses an aircraft
  of a certain type; a flight has also a departure time and an
  arrival time.
- An airline owns a set of aircrafts of diffent types.
- An aircraft can be in a working state or it can be under repair.
- In a particular moment an aircraft can be landed or airborne.
- A company has a set of pilots; each pilot has an experience level, 1 is
  minimum & 3 is maximum.

- A type of aeroplane may need a particular number of pilots, with a different role (e.g., captain, co-pilot, navigator) there must be at least one captain and one co-pilot, and a captain must have a level-3.


airline
ID
name
Flight
arrival time
Airport
id
Aircraft
name
Aircraft Type
Pilot
Pilot

OCL