

Exercise 1

For the following questions, propose

- 1) a class diagram
- 2) an object diagram that satisfies the class diagram
- 3) an object diagram that does not satisfy the class diagram (and explain why).

Q1. A state has a name and a capital. It shares boundaries with at least one other state.

Q2. An elector votes for at most one candidate.

Q3. A supermarket proposes different types of products: foodstuffs, objects and flowers. Each product has a bar code and a price. Foodstuffs have an expiry date and flowers have a fresh date.

Q4. A building has several floors. Some of them are composed of offices and flats. Others are dedicated to parking. They are composed of several parking slots.

Q5. A media library has different types of media that can be borrowed by the library subscribers.

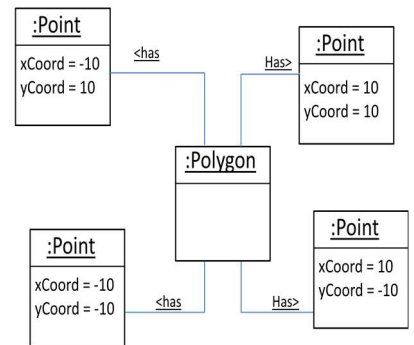
Exercise 2

Propose a class diagram from the following object diagram.

A point has an x and a y coordinates.

Explain your choices of cardinalities.

- What is the smallest number of points to build a polygon?
- Can a point be shared by several polygons? What are the consequences on the object diagram?
- How indicate that points are ordered?



Exercise 3

Several classes are presented hereafter. Some of the attributes are references to other classes.

Propose a new class diagram.

Person
BirthDate
IDEmployer1
IDEmployer2
IDEmployer3
IDPerson
Address

Car
IDOwner
IDCar
OwnerType
Model
Year

Loan
IDCar
ClientType
IDClient
IDBank
InterestRate
CurrentBalance

Company
Name
ID

Bank
Name
ID