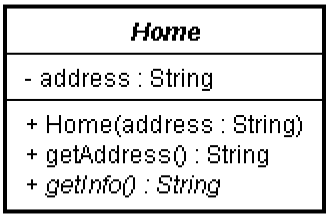
Exercises, SDJ1

Exercise: Home hierarchy

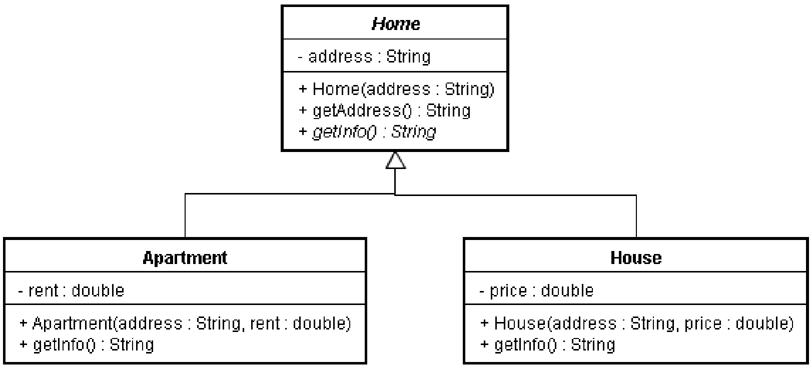
Step1: Abstract class

Implement the abstract class `Home` with the abstract method `getInfo`. The class has to be implemented exactly as shown in the class diagram below:



Step2: Inheritance

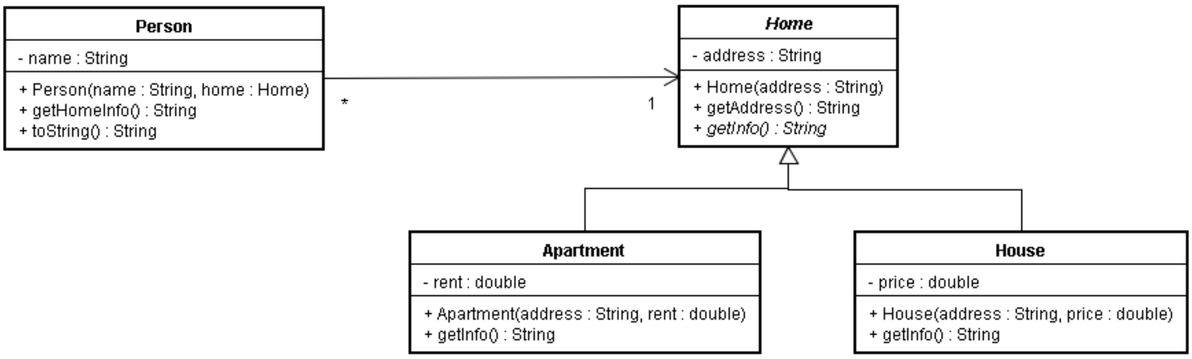
Implement two subclasses to class `Home` from question A; `Apartment` and `House` with instance variables and methods exactly as shown in the class diagram below:



Note: Method `getInfo` return a string with info, i.e. address and rent if it is an apartment, and address and price if it is a House.

Step 3: Association

Implement class `Person` exactly as shown in the class diagram below (the other classes are implemented in Step 1+2):



Note: Method `getHomeInfo()` return a string with info of the home (Apartment/House)

Step 4: Polymorphism

Implement a test class with a main method that test the solution. There are the following restrictions to the main method:

a) You have to create at least three Person-objects – it is ok (and a good idea) to use an array or an ArrayList.
b) At least one Person-object has to have an Apartment as home and at least one person has to have a House as home.
c) You have to call getHomeInfo for each Person-objects (in a loop) and print out the result

Extra

Refine the classes Home, Apartment, House and Person adding methods toString and equals to all classes. Test all methods in the test program – remember also to check if equals is working comparing two object references with Home as static type and e.g. with Apartments as their dynamic types.