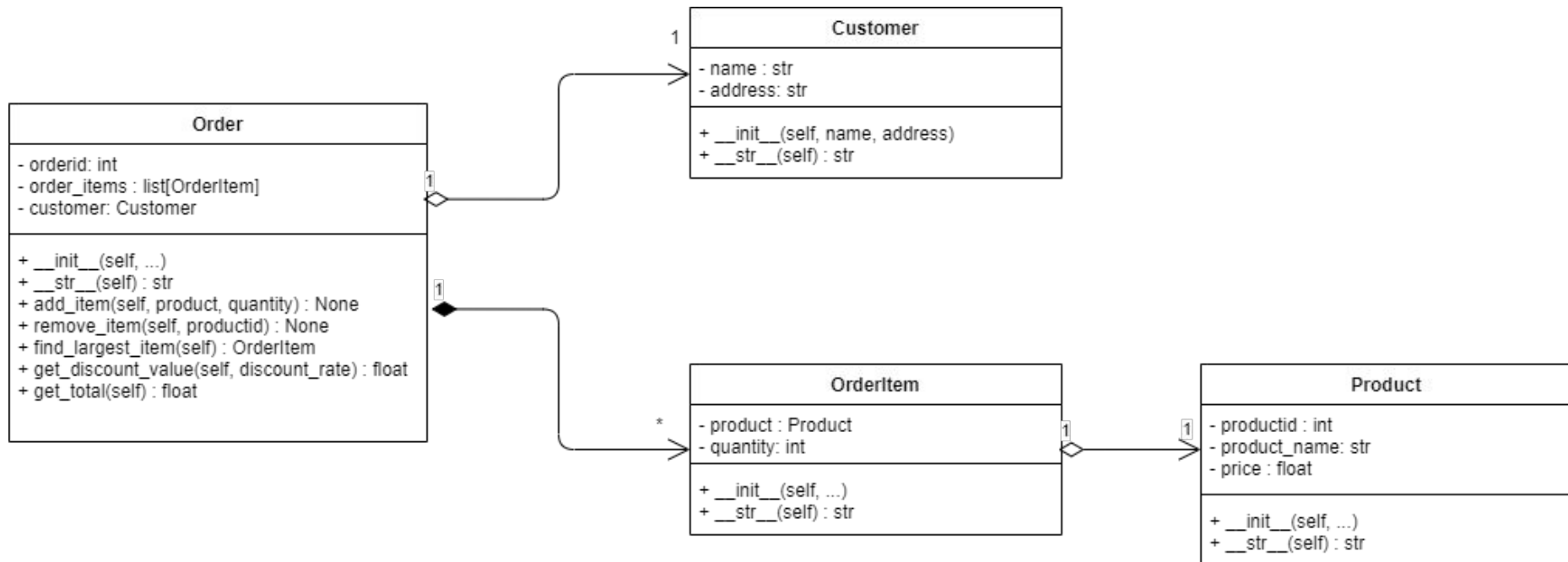


Simple Python Classes

Python Lab Exercises

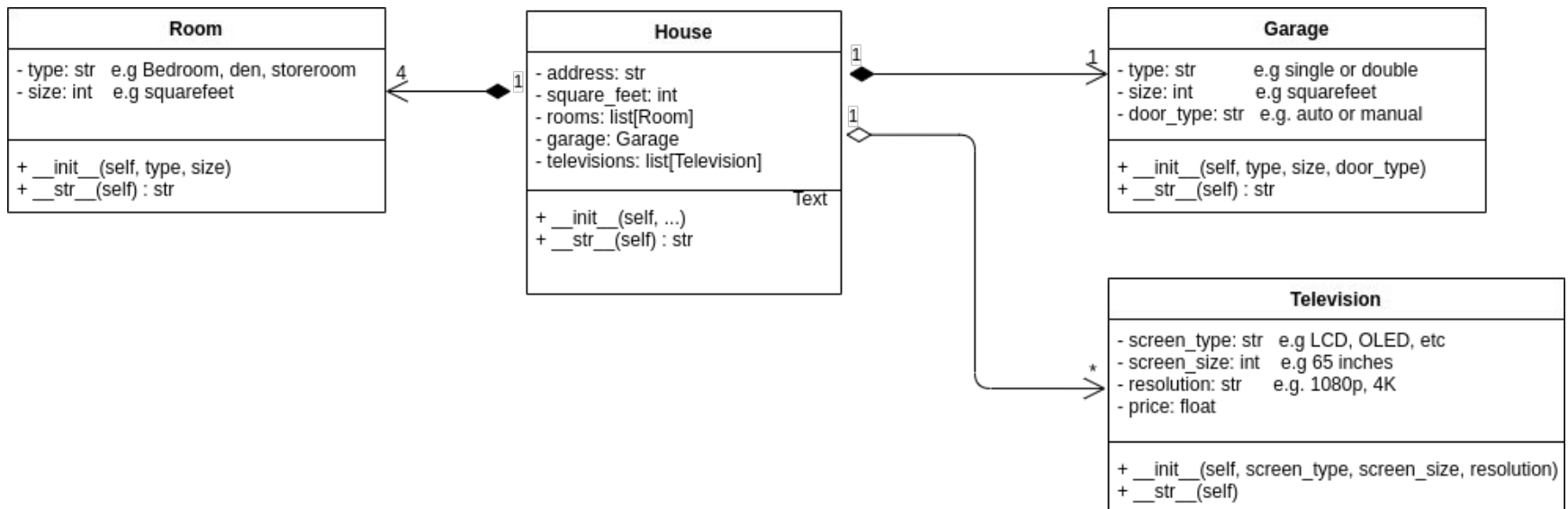
Question - Order Class

- Implement the following classes according to the class diagrams.
- You need to define necessary function parameters for all the classes' constructors (...) to complete constructor implementations.
- After you implement all the classes, write a main method to create objects of the classes you defined and print out their contents.
- Each class should have appropriate setters and getters using property annotation to access private attributes
- The `add_item()` function first checks to see if the product already exists in the order; if so, it updates the quantity of the existing order item by adding the new quantity to the existing quantity.
- Each class should also implement `__eq__()` and `__repr__()` function.
- Enhance the Order class so that it allows the main method to add and remove the order items from the Order instance.



Question - House Class

- Implement the following classes according to the following class diagrams.
- After you implement all the classes, write a main method to create objects of the classes you defined and print out their contents.
- Each class should have appropriate setters and getters using property annotation for accessing private attributes.
- The House class should allow other classes to
 - add and remove a TV object the televisions list.
 - change the garage object's size
- The House class should also have the following public methods:
 - def get_biggest_room(self) -> Room
 - Based on the size of the room, find the largest one.
 - def get_oled_televisions(self) -> list[Television]
 - Get a list of televisions with an OLED display
 - def is_similar_house(self, other) -> bool
 - If two houses have the same square footage and number of rooms, they are considered similar



Question - Employee Management

Writing an application to manage a list of employees using an object-oriented approach. There should be at least two classes in your program: employee and company. The Employee class represents an employee object, whereas The Company class, which represents a company with employees, will be used to add, remove, search for, and display employees.

Your application should display a 4 option menu. The options to be included are:

- e - Enter a new employee's information
- a - Display all employees information
- d - Display an employee's information
- q - Quit

Option e:

Prompt a user to provide the name, ID, department number, and age of an employee. Each employee has name, ID, department number, and age.

Option a:

Display information entered for all employees.

Option d:

If option d is selected, prompt the user for the employee's name. Search the list. If found, display the employee. If not found, allow the user to enter the new employee if they choose.