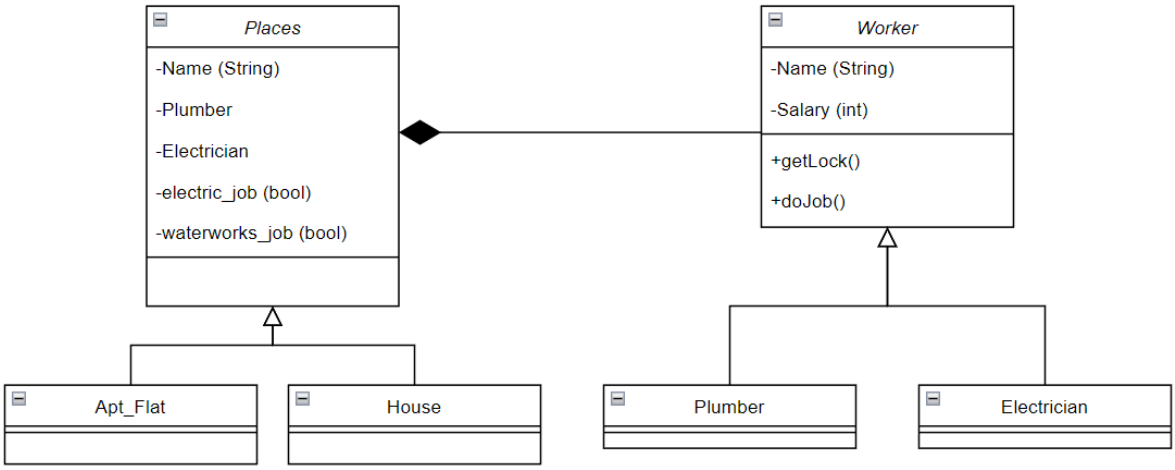
SE311 SPRING 2023-2024 / 24-05-2024
Lab Work 12 – Visitor Pattern Example 2
Goal: Practice on Visitor Pattern

Before you start: Recall the example of plumbers and electricians that was discussed in class for the Visitor Pattern.

In that example, the scenario involved places, each with tasks for a plumber and an electrician. The places mentioned were a house and an apartment. Below is a simplified UML diagram of the example before applying the Visitor Pattern.



The issue with the example before applying the Visitor Pattern is that it assumes there are specific plumbers and electricians assigned to each place. In reality, this is not the case. You call a plumber or an electrician, they arrive at your home, and complete their job. This scenario aligns with the Visitor Pattern in software architecture.

Your task is to apply the Visitor Pattern on this example.

Details:

1) Each worker should visit each place; they do not reside in any place.
2) As they visit the places, they need to acquire the lock of the place. Call “getLock” first during a visit, which will simply print a string on the screen.
3) When an electrician visits a place;
    a) Gets the lock,
    b) Completes the task by making the electric_job boolean “True”,
    c) Increases its own salary by 100 for flat and 200 for house.
4) When a plumber visits a place;
    a) Gets the lock,
    b) Completes the task by making the waterworks_job boolean “True”,
    c) Increases its own salary by 250 for flat and 500 for house.
5) Write a main;
    a) Create a flat and a house. Give them names and set booleans to “False” by default.
    b) Create an electrician named “Pikachu” and a plumber named “Mario”. Initialize salaries to 0.
    c) Make the workers visit places.
    d) Print the job status of places.
    e) Print the salaries of workers.