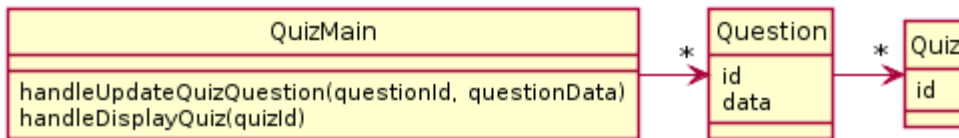


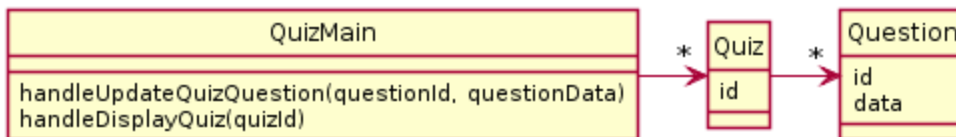
**Design Problems, Part 1**    **Name:** \_\_\_\_\_ **CM:** \_\_\_\_\_

**Online quiz:** In an online quiz application for teachers who write quizzes and students who take them. The same quiz question can appear in multiple quizzes. If a teacher updates a quiz question, it is important that all quizzes immediately reflect that change.

### Solution A



### Solution B



Both of these designs have the worst kind of problem: **they don't function**.

Please identify the problems with each solution. You must provide two items for each solution: (1) The Principle Number for the problem (Principle 1a, 1b, or 1c); and (2) an explanation of how the solution violates that principle. Finally, you must provide a UML diagram that illustrates a new design of your own creation that works correctly.

#### Problems with A

- 1) Principle:
- 2) Explanation:

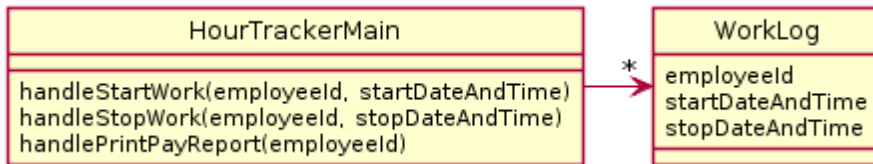
#### Problems with B

- 1) Principle:
- 2) Explanation:

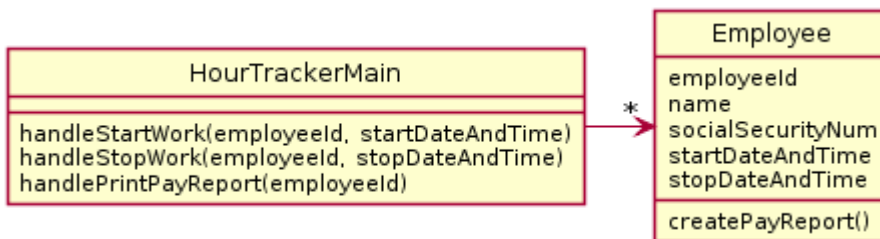
#### UML of Your Solution

**Hour tracker:** Is an application for tracking employee workhours at a particular company. Every time any employee starts and stops work, the system must log the start/stop time so that the employee will be paid correctly and so management knows who was working when. The app must also print out a weekly pay report for each employee which includes *total hours*, the *employee's name*, *social security number*, and *employee id*.

### Solution A



### Solution B



Each of these 2 proposed solutions has a problem with functionality. One of them also violates an additional design principle that has discussed in class. Identify by number and explain the problems with each one, then propose a new design of your own that works correctly.

#### Problems with A

- 1) Principle:
- 2) Explanation:

#### Problems with B

- 1) Principle:
- 2) Explanation:

#### UML of Your Solution