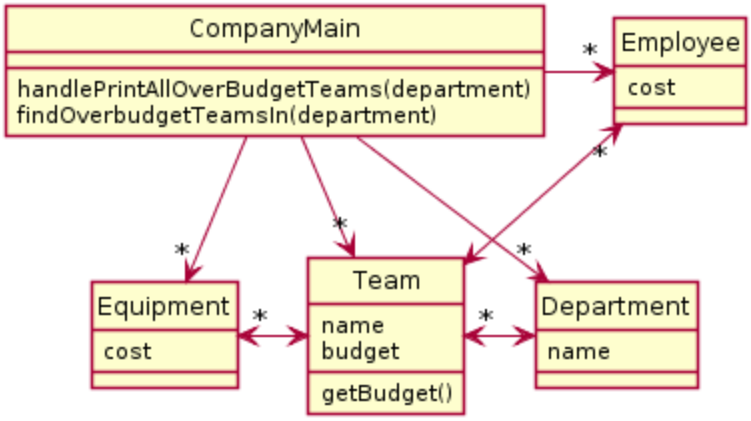
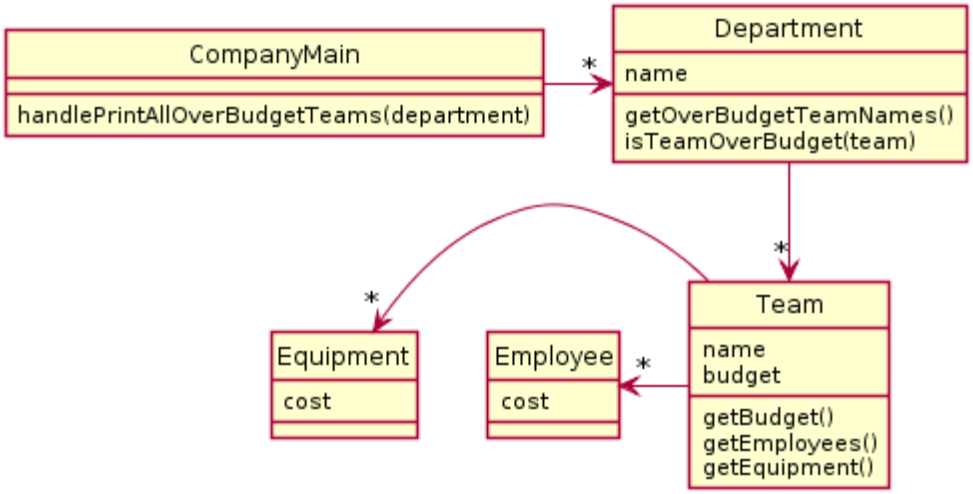
Design Problems, Part 3 **Name: _____ CM: _____**

Team Budget: At a particular company, departments are composed of named teams and each team has a yearly budget. Teams comprise both employees and equipment, each of which has a yearly cost. A team is considered over budget if the total yearly cost of all employees and all equipment is greater than the team's yearly budget. A reporting app for this data should be able to generate a list of all teams within a department that are over their yearly budget.

Solution A



Solution B



First, for each *Solution A* and *Solution B* give the number of the OO Principles violated and an explanation.

Problems with A

1) Principle(s):
2) Explanation:

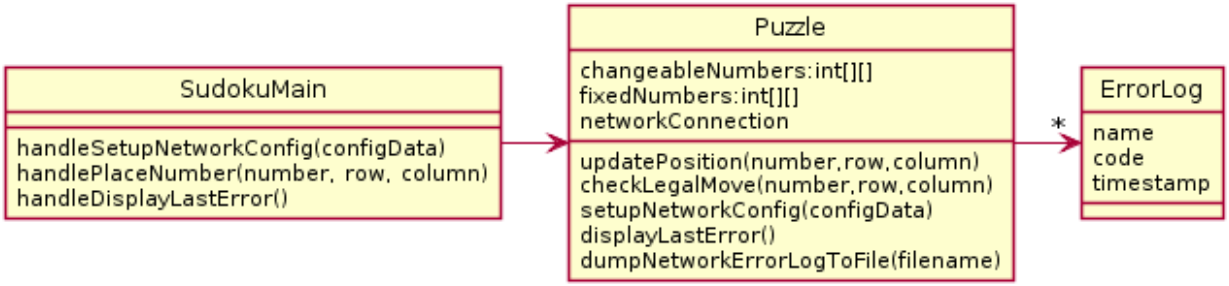
Problems with B

1) Principle(s):
2) Explanation:

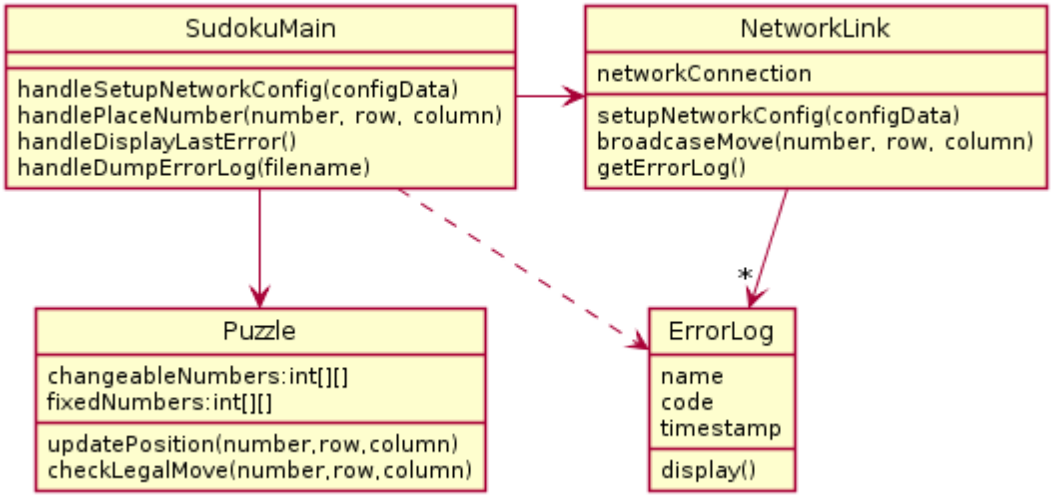
Second, attach a UML design that captures your solution to all the problems.

Internet Sudoku: A particular application allows people to solve sudoku puzzles while spectators watch the exciting action over the internet. When a player enters a new number, the app must and ensure it was a legal move and then update the board. Then the app must broadcast the move via an internet channel to all spectators. Before use, the internet connection must first be setup with a network configuration. If there any network connectivity problems, they are placed in an error log that is stored in a file and can be displayed with a command. Each error log entry includes a message, an error code, and a timestamp. The error display command displays the most recently logged entry's message and timestamp. The error dump command takes a filename argument and outputs the complete error log to a datafile giving the datafile the provided filename.

Solution A



Solution B



****HINT****: in Solution B, the code in *handleDisplayLastError()* looks like this:

```
networkLink.getErrorLog().get(0).display();
```

First, for each *Solution A* and *Solution B* give the number of the OO Principles violated and an explanation.

Problems with A

1) Principle(s):
2) Explanation:

Problems with B

1) Principle(s):
2) Explanation:

Second, attach a UML design that captures your solution to all the problems.