

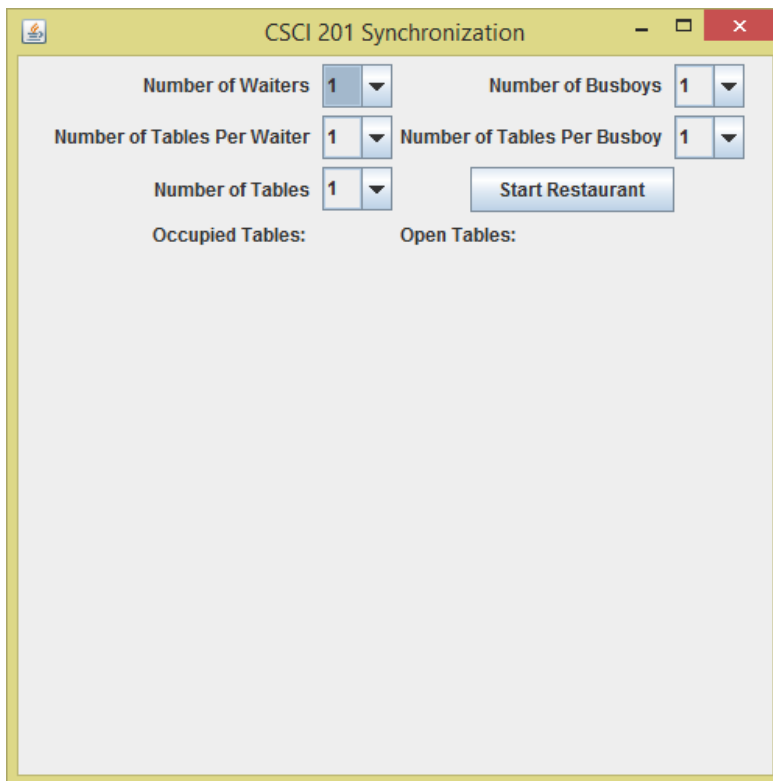
CSCI 201L Spring 2014 – Section 1
Final - Programming
12.0% of course grade

For this program, you will use the Restaurant code that we went over in class. You can get the latest version of the code from the Lectures page of the course web site under the Final Exam day. That code will be the starting point to add the features included in this exam.

The current codebase implements multiple waiters, multiple tables per waiter, and multiple tables in the restaurant. We will add to this functionality.

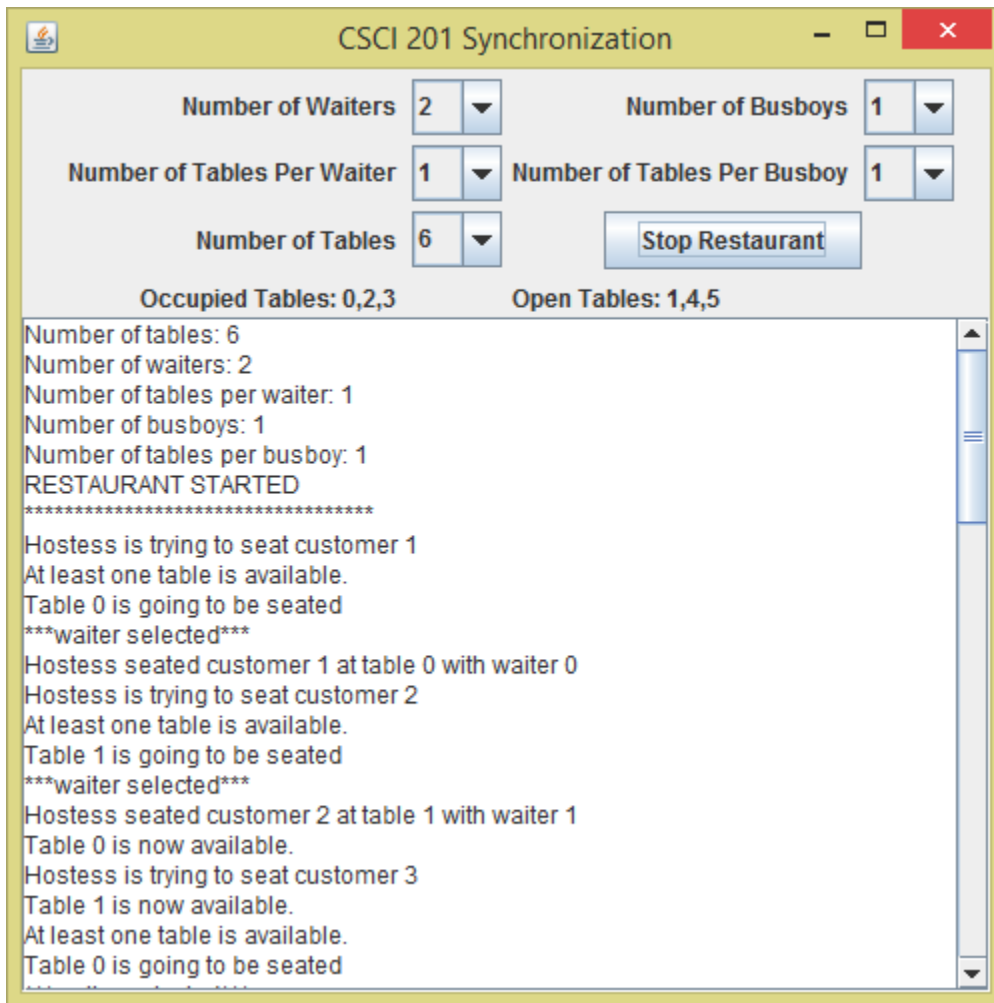
Part 1

There is a JLabel to represent the tables that are currently occupied. Add another JLabel to represent the tables that are currently available. Place this label in the column to the right of the Occupied Tables label. Here is how the GUI should look initially:



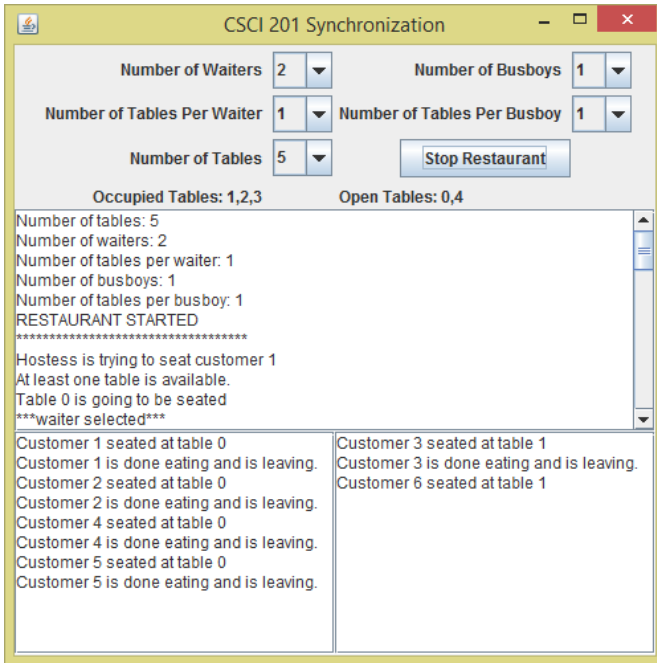
Part 2

Add code to make the JLabel function with having the open tables populated as the program runs. If you do not have the JLabel working in the GUI, you can output the open tables in the command line to receive partial credit for this part. Here is an example of the GUI populating with the open tables.

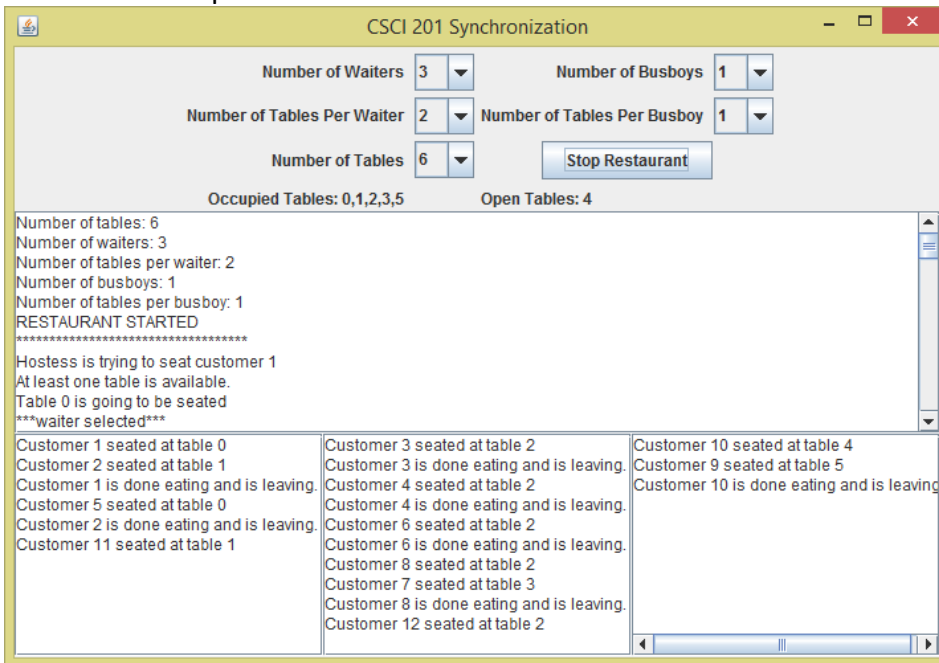


Part 3

Modify the GUI so it does not just have a single text area for the entire restaurant, but instead has a text area for the hostess and one text area for each waiter. Generate these text areas when the "Start Restaurant" button is clicked. The center area of the GUI should have the hostess text area at the top and the waiter text areas next to each other on the bottom. Here is an example of the GUI with two waiters:



Here is an example of the GUI with three waiters:



Part 4

The hostess should output all of the messages that are currently displayed in the GUI. Each waiter will only output two messages – when a customer is seated and assigned to the waiter, and when a customer assigned to that waiter leaves. The message should be displayed as shown in the above GUI.

If you do not have the GUI portion working, you can accomplish this part by outputting to the command line. If you are outputting to the command line, you should prepend the message with “WAITER <waiterNumber>”, substituting the actual waiter number in for <waiterNumber>. You do not have to do this if you have the messages printing in the GUI. Here is an example of the output on the command line:

```
WAITER 0: Customer 1 seated at table 0
WAITER 1: Customer 2 seated at table 1
WAITER 0: Customer 1 is done eating and is leaving.
WAITER 0: Customer 4 seated at table 0
WAITER 1: Customer 2 is done eating and is leaving.
WAITER 1: Customer 3 seated at table 2
WAITER 0: Customer 4 is done eating and is leaving.
WAITER 0: Customer 6 seated at table 0
WAITER 0: Customer 6 is done eating and is leaving.
WAITER 0: Customer 7 seated at table 0
WAITER 1: Customer 3 is done eating and is leaving.
WAITER 1: Customer 5 seated at table 1
WAITER 0: Customer 7 is done eating and is leaving.
WAITER 0: Customer 8 seated at table 0
```

Grading Criteria

% of Final Grade	Criteria
4.0%	Part 1
4.0%	Part 2 (3.0% max for outputting on the command line only)
4.0%	Part 3
4.0%	Part 4 (2.0% max for outputting on the command line only)