Kartik Chillakanti
CS 201

HOST AGENT

Data

```
List<CustomerAgent> waitingCustomers;
List<WaiterAgent> waiters;
Collection<Table> tables;

class Table {
	CustomerAgent occupiedBy;
	int tableNumber;
}

class MyWaiter {
	WaiterAgent waiter;
	int numTables;
	boolean onBreak = false;
}
```

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Scheduler

```
If there exists w in waiters
    Such that (!w.onBreak)
        If (w.breakApproved)
            w.waiter.msgBreakApproved
            w.onBreak = true;
        else if (w.breakDenied) {
            w.waiter.msgBreakDenied();

If there exists w in waiters
    such that w.onBreak == false
    And if there exists t in tables such that table is not occupied
        and if there exists c in waitingCustomers
            tellWaiterToSeatCustomer(waitingCustomers.get(0), table,
            waiters.get(WaiterWithMinTables);
```

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Messages

```
msgIWantFood (CustomerAgent cust) {
        waitingCustomers.add(cust);
}

msgTableIsFree(table) {
        if there exists t in tables such that table = t then t.setUnoccupied();
}

public void msgIWantABreak(WaiterAgent w)
{
        if (waiters.size() > 1) {
                for (MyWaiter mw : waiters) {
                        if (mw.waiter.equals(w)){
                                mw.breakApproved = true;
                        }
                }
        }
        else {
                mw.breakDenied = true;
        }
}


public void msgImOffBreak(WaiterAgent w) {
        for (MyWaiter mw : waiters) {
                if (mw.waiter.equals(w)){
                        mw.breakApproved = false;
                        mw.breakDenied = false;
                        mw.onBreak = false;
                }
        }

}

public void msgLeaving(CustomerAgent c) {
        waitingCustomers.remove(c);
        stateChanged();
}
```

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Actions

```
tellWaiterToSeatCustomer(CustomerAgent c, Table t, WaiterAgent waiter)
{
	waiter.msgSitAtTable(c, table);
	table.setOccupant(c);
	waitingCustomers.remove(c);
}
```