ICS 421 Database Systems — 01/14/2010 Name:_____

A local restaurant has approached you to design a database for tracking their sale transactions. After several interviews you gathered the following information:

- Each table is assigned a server (i.e., a waitor or waitress), a server can wait on multiple tables.
- Each table is associated with one customer who makes the payment for the meal ordered at the table. (The paying customer may have guests at his table, but he is the one who pays.) There can only be one paying customer at each table at one time.
- Each server takes an order for each table and each order contains multiple order items. An order also contains the attributes ordertime, tax, amountpaid, and tip.
- Each order item is a request for some quantity of a menu item and a special processing attribute (eg. for specifying "rare", "medium rare", "well done" etc).
- Customers can only order items from a set of menu items.
- Each menu item has a name, description, and price. The name of a menu item uniquely identifies the menu item.
- A customer has a name attribute and a unique customer identifier.
- A server has a name attribute and a unique SSN.
- The database should support simple queries like calculating the check for a table.

Draw an ER diagram to model the restaurant application. Underline primary key attributes and include cardinality ratios. Use double-lined boxes for weak entities.