We have the following document containing the description of an system we have to build. Identify the actors and the use cases and draw the corresponding use case diagram. Use <<include>> relation for relevant situations and at least one <<extend>> where/if possible. Describe textually one use case explained in more details.

An eccentric cake-shop owner wants to introduce a software system to support the basic activities in her shop. On each table, there is a terminal connected to a central computer. A customer (all the people at a table) can use the terminal to consult the products sold in the cake-shop (e.g., refreshments of different types, various kinds of cakes, various types of alcoholic drinks, etc.) each of which having a description and a price. If the customer wants to, she can compose an order specifying all the products and the associated quantities. After finishing the order, the system checks the availability of each product (in the desired quantity). If some products are not available in the desired quantity, those products are eliminated from the order and the system offers to the customer a list of alternative products to select from. When all the products in the order are available, the systems updates the stock database, and the order is sent to a waiter. The waiter is selected by the system in such a way that all the waiters will get a similar number of orders in a working day. Additionally, all the orders from the same customer will be sent to the same waiter (after a time, a customer can sent another order). When a customer decides to leave the shop, the customer sends a notification to the corresponding waiter to prepare the check.

Each waiter has a personal terminal. Using it, the system notifies the waiter that she received an order from a particular table. All the products are specified together with the desired quantities for each product. In a similar way, the system notifies a waiter that she must go to a particular table to give and cash the customer check. The system will also compute and provide the total value of all the orders of that customer. When a waiter receives a notification (of any kind) the system records it in a log specific to that waiter. The waiter processes each notification in the order in which they are received. In the case of an order notification, the waiter prepares the order content (i.e., puts all the products on a plateau) and delivers it to the corresponding table. After that, he marks the order as being delivered and the system logs this fact and the delivery time in the waiter log. In the case of a check notification, the waiter goes to the table and cash the money. She marks using the terminal that the payment is performed and then the system updates the waiter total amount of money she received and prints the customer receipt containing all the products, prices, quantities and the total value of the receipt. The moment of payment is logged in the waiter log.

From the waiter point of view, computing the total value of a check is very important. This value is obviously based on the price of each product and on the consumed quantity. However, each day, there are some special products for which a discount is given. A special product is a combination of at least two normal products (e.g., a coke and a cheese-cake). The price of a special product is computed as the sum of the prices of each component product from which we subtract a percent specific to that special product. Moreover, an additional discount can be given based on the values of all the orders of a customer: in one day no discount may be given; in another day, if the total value is greater than a specified minimum value a fixed discount is given e.g., 20 RON; in another day, if the total value is greater than a specified minimum value a percent discount is given e.g., 10%; in another day, the discount can be combined (fixed amount or percent) and the discount value is computed in such a way in which to favor the client or the company (depending on how the system is configured).

The price policy is established by an administrator that can compose special products to be available in the next working day. Additionally, the administrator can specify what discount policy is going to be applied the next day. Moreover, she can modify the price of a product starting with the next day, can add products to be available starting with the next day, can check the stock in order to ask producers to supply the shop with various products. The stock can also be updated by the administrator when new products arrive in the shop and the verification of the waiters logs can also be performed by the administrator. At the beginning of a working day, the administrator starts the system. At the end of a working day, the administrator stops the system. In that case, a report is produced by the system containing the total income for that day and the total income of each waiter.