1. Design a project for “Amma Bakery” with the following Requirement specifications :
   1. The bakery maintains a list of rates for every item in its store, which cannot be altered by anybody. And the rates can be changed only when the software gets loaded, for the first time.
   2. Create a counter to accept payments from customers. The counter can set and reset its own user-name and password.
   3. The counter can access the rates of every item for billing.
   4. A menu should be displayed with sl.no., name of the item and rate. Depending on the quantity ordered, counter has to access rates, calculate total and generate bill.
   5. The counter can close temporarily - all billing work during break. On return at the counter, billing should continue only after authentication.
   6. For every new customer, bill has to be generated with the next serial no.
   7. At the end of the day, the counter has to display the total amount collected.
   8. Every customer should get a welcome message, the bill with bill number, items purchased, amount, Grand total and a Thank You message.

(Hnt : Inhertance,interface, final members, instance block,static block)

**Challenge Program :**

**Java Credit Card Validation**

Any credit card number should pass following test:

1. From the rightmost digit, we should double every second digit. If the double is greater than 9, then add the both digits so that final number is of single digit.
2. Now sum all the digits in the number, the unchanged numbers and the doubled numbers.
3. The final sum should be multiple of 10 or mod 10 of the number should be 0. If it’s not then its not a valid credit card number.