Lab Cycle II – PLSQL (Source: Database Systems – Coronel & Morris)

Consider the following relational database schema for billing and product tracking system of a departmental store. The name of the tables and column headers are self-explanatory.

CUSTOMER(Cus_code, Cus_fname, Cus_lname, Cus_balance)

INVOICE(Inv_no, Cus_code, Inv_date, Inv_amount)

LINE(Inv_no, Line_no, P_code, Line_units, Line_price)

PRODUCT(P_code, P_desc, P_qoh, P_min, P_price, V_code)

VENDOR(V_code, V_name, V_Contact)

The primary keys are underlined and foreign keys are self-explanatory.

1. Write a procedure to add a new customer to the CUSTOMER table. Use the following values in the new record: <1002, 'Rauthor', 'Peter', 0.00>.

Run a query to see if the record has been added.

2. Write a procedure to add a new invoice record to the INVOICE table. Use the following values in the new record: <8006, 1000, '30-APR-16', 301.72>.

Run a query to see if the record has been added.

3. Write a PL/SQL function to compute purchase made by a given customer for a particular invoice. Test the function in another function to compute the total purchase made by a customer.

4. Write a procedure to delete an invoice, giving the invoice number as a parameter. Test the procedure by deleting invoices 8005 and 8006.

5. Write a procedure to display the INV_SUBTOTAL, INV_TAX, and INV_TOTAL. The procedure takes the invoice number as a parameter. The INV_SUBTOTAL is the sum of the LINE_TOTAL amounts for the invoice, the INV_TAX is the product of the INV_SUBTOTAL and the tax rate (8 percent), and the INV_TOTAL is the sum of the INV_SUBTOTAL and the INV_TAX.

6. Write suitable PL/SQL code to display the list of vendors who must be contacted whenever a product reaches reorder level.

7. Write the trigger to update the CUST_BALANCE in the CUSTOMER table when a new invoice record is entered. (Assume that the sale is a credit sale.) Test the trigger using the following new INVOICE record: <8005, 1001, '27-APR-16', 225.40>.

8. Write a trigger to update the customer balance when an invoice is deleted.

9. Write a trigger that automatically updates the quantity on hand for each product sold after a new LINE row is added.

10. Write a trigger to throw exception whenever the invoice amount exceeds customer balance.