Database Systems (CS 532-02)
Project 2 - Team Report

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INTRODUCTION

The project's target was to use Oracle's PL/SQL and JDBC to implement the Retail Business Management System (RBMS). It's an application software which helps in maintaining the details of the retails businesses which includes employee's information, customer's information, supplier's information, supplies information, discounts information and maintains the purchasing of products from the customers. This application software is designed using Oracle's PL/SQL, JDBC.

The implementation is done in two parts using:

1. PL/SQL Procedure, Function and Triggers.
2. Interface using JAVA and JDBC.

PL/SQL IMPLEMENTATION

The details of the various procedures, packages, functions, sequences and triggers are:

1. Packages

Package rbms.
This package contains all the functions & procedures used in the project.

2. Procedures

add_purchase:
This procedure is used to add the values to the purchases table.
add_customer:
This procedure is used to add the values to the customers table.
delete_purchase:
This procedure is used to delete the values from the purchases table.
monthly_sale_activities:
This procedure is used to report monthly sale activity.

3. Functions

Explaining few functions implemented using PL/SQL

Function to show values of employees table

return ref_cursor_employees is rc_e ref_cursor_employees;
open rc_e for
select * from employees;
return rc_e;
Input: table_name(employees
Returns: ref cursor to the result set.

This function takes table name as a parameter and returns cursor for the result set which contains the data of the requested table.

Function to show values of products table

return ref_cursor_products is rc_pr ref_cursor_products;
open rc_pr for
select * from products;
return rc_pr;
Input: table_name(products)
Returns: ref cursor to the result set.

- function show_discounts
- function purchase_saving
  Function to show total saving of any purchase.
- function show_purchases
- function show_suppliers
- function show_supplies
- function show_logs
- function show_customers

4. Sequences

Example of the sequence code implemented using PL/SQLcreate sequence sup_sequence start with 1001 increment by 1 order;

5. **Triggers**

    - trigger insert_customers_trigger
      Trigger written to insert a tuple into the Customers table
    - trigger update_last_visit_date_trigger
    - trigger insert_purchases_trigger
    - trigger insert_supplies_trigger
    - trigger delete_purchases_trigger

TIMES THE TEAM MEMBERS MET

8 times the team got together for discussions & brainstorming.

TASKS DISTRIBUTION

1. This project is done by a group of three students Nishant Shah, Vidhi Kamdar and Dipankar Ghosh.
2. We divided the project work in two parts, in which one is PL/SQL backend and the other is JAVA JDBC.
3. All three handled the PL/SQL backend part. Nishant & Vidhi handled the Java frontend part.
4. After creating the front end and backend we three worked together and merged both the parts and tested by thinking on various test cases.
5. While working on the backend we discussed the queries initially as it was not only for command line, it had to be handled by Java.
6. The documentation was discussed and equally done.

WHAT WE LEARNED

This project made us realize the importance of teamwork and how different concepts of computer science are interweaved with one another in a very serpentine manner.