Design and Implementation Sales System using Oracle 9 Data Base

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Abstract

The sales system is a data base system used to store and retrieve all information of sales and customers. In this system, we can input, update and delete information of sales.

The system is created using Oracle 9 and Developer 6. Oracle has many advantages for building data base such as privileges and priorities for system users which are duties of Data Base Administrator (DBA).

الخلاصة

نظام المبيعات هو عبارة عن نظام قواعد بيانات يستخدم لخزن و استرجاع كل المعلومات المتعلقة بالمبيعات و الزبائن. في هذا النظام, نحن ندخل, نحدث و نحذف معلومات المتعلقة بالمبيعات.

هذا النظام خُلق باستخدام اوراكل9 و المطور6. أوراكل تملك الكثير من الفوائد لبناء قواعد البيانات مثلاً منح امتيازات و أولويات لنظام المستخدمين حيث تكون من مهمات مدير قاعدة البيانات.

1-Introduction

Any company need a way to store and manipulate the information of sales system also update and delete the information.

The company can not control the information of sales without data base system, therefore we create this system to solve this problem provide advance control and knowledge for all information of sales system.

For that this Information System built using Oracle9 & Developer6, so each department and employee of the company can access and manipulate with sales data base system according to privileges that granted by data base administrator (DBA) to all users.

3-Data Base

There are many reasons to use the database rather than any methods of storing data from these reasons are:

- Storing information in a database has many benefits
  - Organize and analyze in deferent ways
    - Reports
    - Mailing labels
    - Inventory
  - Many advantages over other ways to store data
    - Speed
    - Reliability
    - Precision
    - Ability to automate tasks
  - Databases make it easy to store large quantities of information. The larger the mass of information, the bigger the benefit of using a database.
  - Databases make it easy to retrieve information quickly and flexibly.
  - Databases make it easy to organize and reorganize information. You can quickly switch between schemes.
  - Databases make it easy to print and distribute information in a variety of ways [1].

3-*Oracle Data Base*

Oracle is the most widely used database in the world. It runs on virtually every kind of computer. It functions virtually identically on all these machines, so when you learn it on one, you can use it on any other. This fact makes knowledgeable Oracle users and developers very much in demand, and makes your Oracle knowledge and skills very portable. Oracle documentation is thoroughgoing and voluminous, currently spanning multiple **[2]**.

4-*Structured Query Language*

Oracle has simple English speech and can be readily understood. Oracle was the first company to release a product that used the English-based Structured Query Language, or SQL. This language allows end users to extract information themselves, without using a systems group for every little report.

Oracle's query language has structure, just as English or any other language has structure. It has rules of grammar and syntax, but they are basically the normal rules of care[3].

5-*Database Administrators*

Each database requires at least one database administrator (DBA). An Oracle Database system can be large and can have many users. Therefore, database administration is sometimes not a one-person job, but a job for a group of DBAs who share responsibility.
A database administrator's responsibilities can include the following tasks:
■ Installing and upgrading the Oracle Database server and application tools.
■ Creating primary database storage structures (tablespaces) after application developers have designed an application.
■ Creating primary objects (tables, views, indexes) once application developers have designed an application.
■ Enrolling users and maintaining system security **[2]**.
■ Controlling and monitoring user access to the database.
■ Monitoring and optimizing the performance of the database.
■ Planning for backup and recovery of database information.

6-*Database Security*

Oracle includes security features that control how a database is accessed and used.
For example, security mechanisms:
_ Prevent unauthorized database access
_ Prevent unauthorized access to schema objects
_ Audit user actions
Associated with each database user is a schema by the same name. By default, each database user creates and has access to all objects in the corresponding schema[4].

7-*The system Implementation*

The sales system consists of 4 tables:
SQL> Desc Received_Quantity;
The Serial_No field is unique.

#	Data Base Name	Display Name	Type
1	ITEM_CODE	ITEM CODE	VARCHAR2(15)
2	RECEIVED_DATE	RECEIVED DATE	Date
3	SERIAL_NO	SERIAL NO	VARCHAR2(15)
4	CHECK_SALE	CHECK SALE	NUMBER(1)

SQL> Desc Warehouse;
The ITEM_CODE field is primary key.

#	Data Base Name	Display Name	Type
1	ITEM_CODE	ITEM_CODE	VARCHAR2(15)
2	ITEM_NAME	ITEM_NAME	VARCHAR2(50)
3	DESCRIPTION	DESCRIPTION	VARCHAR2(50)
4	TOTAL_QTY_RECEIVED	TOTAL_QTY_RECEIVED	NUMBER(15)
5	TOTAL_QTY_SALES	TOTAL_QTY_SALES	NUMBER(15)
6	ITEM_PRICE	ITEM_PRICE	NUMBER(10,3)

SQL> Desc Sales_Quantity;
The Serial_No field is unique.

#	Data Base Name	Display Name	Type
1	ITEM_CODE	ITEM CODE	VARCHAR2(15)
2	SALE_DATE	SALE_DATE	Date
3	SERIAL_NO	SERIAL NO	VARCHAR2(15)
4	CUSTOMER_NO	CUSTOMER_NO	NUMBER(10)

SQL> Desc Customers;

The CUSTOMER_NO field is primary key.

#	Data Base Name	Display Name	Type
1	CUSTOMER_NO	CUSTOMER_NO	NUMBER(10)
2	CONTRACT_DATE	CONTRACT_DATE	Date
3	F_NAME	F_NAME	VARCHAR2(15)
4	M_NAME	M_NAME	VARCHAR2(15)
5	L_NAME	L_NAME	VARCHAR2(15)
6	ID_NO	ID_NO	VARCHAR2(10)
7	ISSUING_DATE	ISSUING_DATE	Date
8	ISSUED_BY	ISSUED_BY	VARCHAR2(50)
9	TEL_NO	TEL_NO	NUMBER(16)
10	EMAIL	EMAIL	VARCHAR2(50)
11	REGION	REGION	VARCHAR2(15)
12	ADDRESS	ADDRESS	VARCHAR2(50)

The relationship between these tables shown in fig (1)
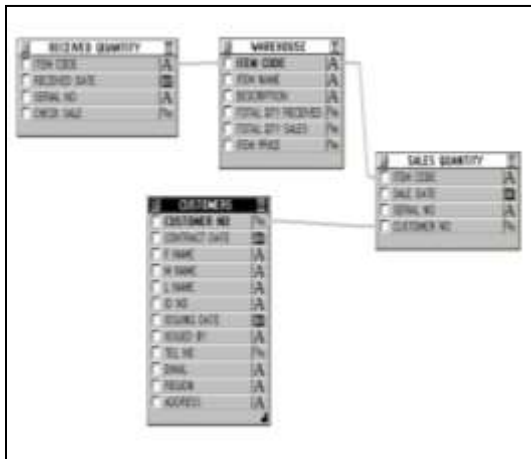
Fig (1) the tables relationship

After create new user we open Enterprise Manager Console, and choose Create command (green box) and choose table form menu as in fig (2).
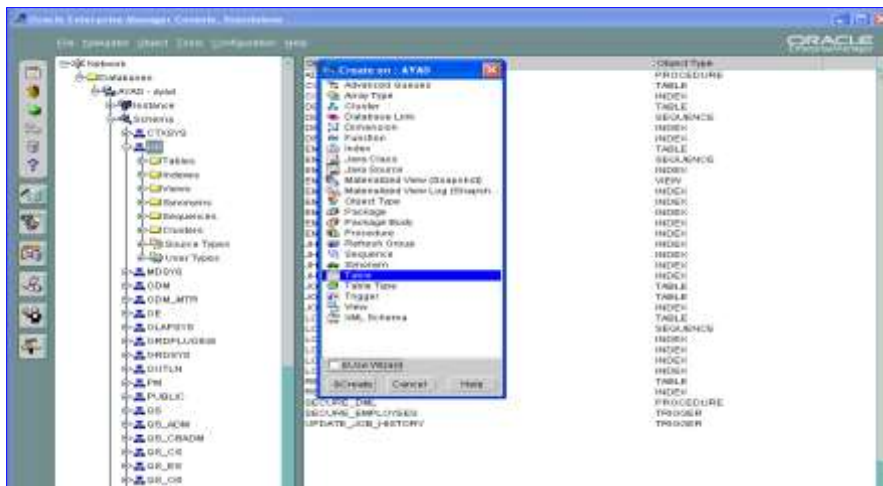
Fig (2) create tables

There are 4 tables in Sales system (Customers, Received_Quantity, Sales_Quantity and Wareehouse) as in fig (3).
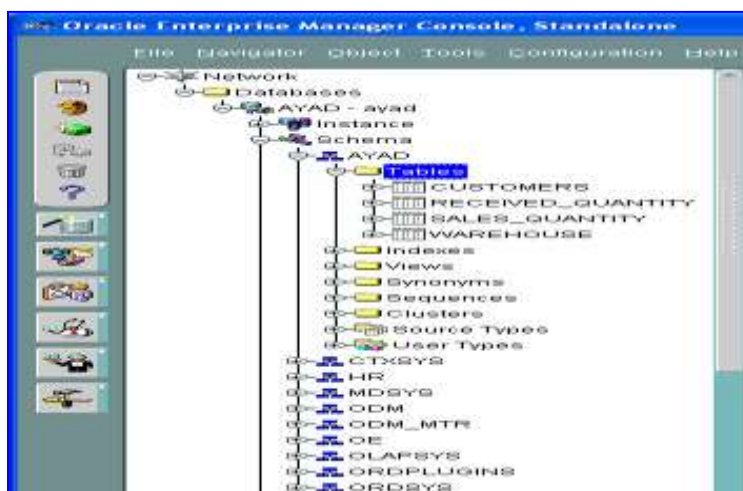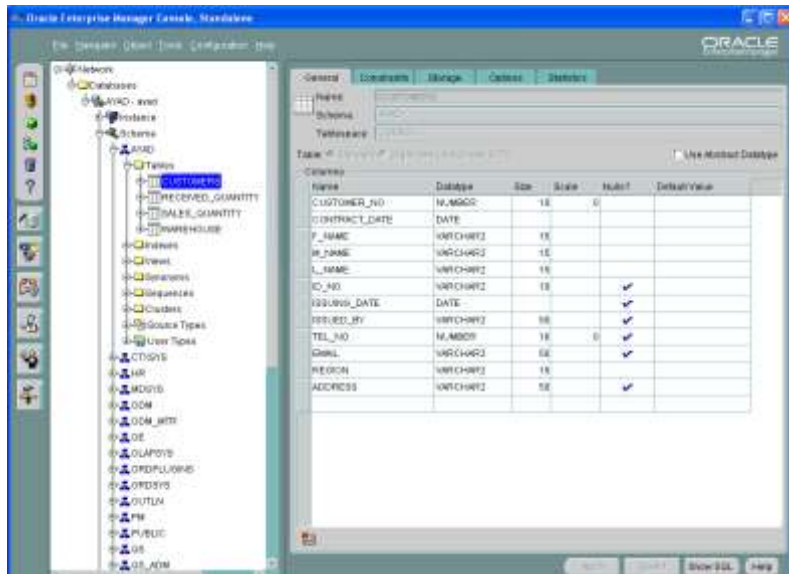

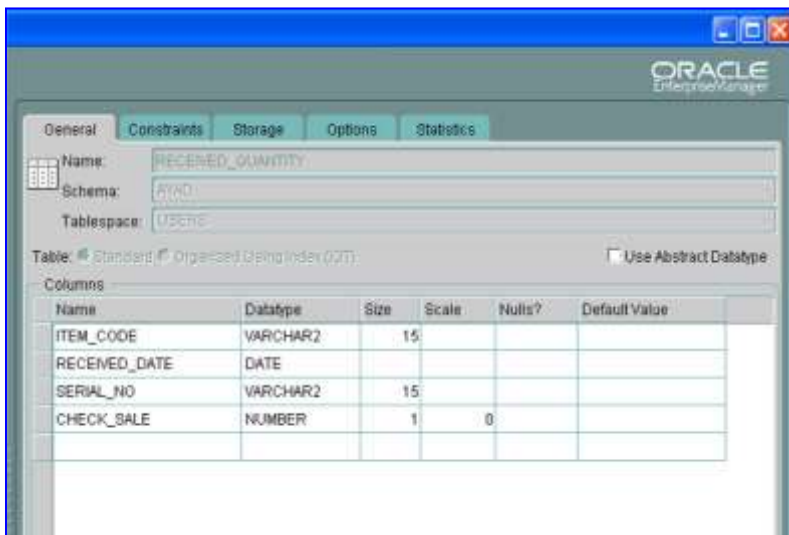**Fig (3) System Tables**

Customer table has information about all customers, the company wholesales items to customers. The Fig(4) show Customer table

**Fig (4)
Customer table**

The second scene for customer table, the CUSTOMER_NO field is primary key.Received_Quantity table for storing all details about received items, the Serial_No field is unique as in fig (5).
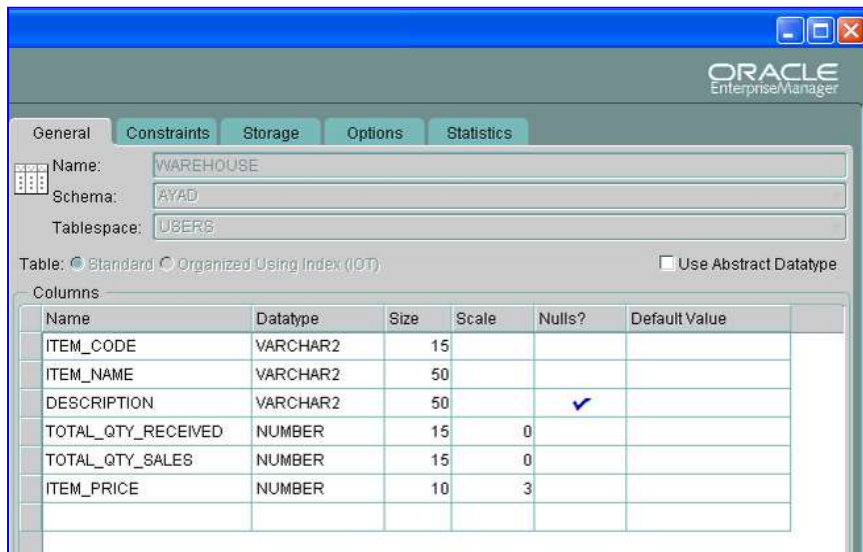
**Fig (5) The
received table**

Sales_Quantity table for storing all details about sales items, the the Serial_No field is unique as in fig (6).

**Fig(6) The Sales
table**

Warehouse table has information about all items, item_code field is primary key as in fig(7).

Fig(7) The Warehouse table

When we run main menu of sales system as shown in fig(8), this window will show that has many commands, we will explain all of them.

Fig (8) The system main window

There are many commands in this form:

WHEN-BUTTON-PRESSED (Received)
call ('c:\sales\RECEIVED_MENU');
This code will call the form its name RECEIVED_MENU in path c:\sales

WHEN-BUTTON-PRESSED (Warehouse)
call ('c:\sales\warehouse_disp');

WHEN-BUTTON-PRESSED (Sales)
call('c:\sales\Sales_Menu');

WHEN-BUTTON-PRESSED (Customers)
call('c:\sales\Customers_Menu');

WHEN-BUTTON-PRESSED (Reports)
call ('c:\sales\reports_menu');

WHEN-BUTTON-PRESSED (Exit2)
exit_form(no_validate);
This command for exit.
When you choose the first command (Received Quantity Information), this window will show in
fig (9).
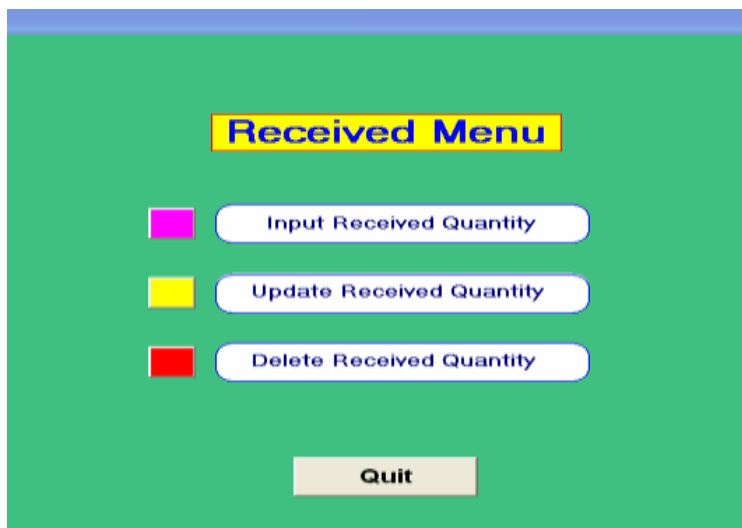
Fig (9) Received window

The received menu for manipulating with received quantity information and it has 3 options (input, update and delete received information). First option to input information of received quantity as shown in figure 10.

Fig (10) Input Received window

Input Received Quantity Form for input information, you should input all values of these fields except description field is optional. And about received date field , you should input date value as format (dd/mm/yyyy). In this form you can input many items at once, just determine the first serial No. in First serial No. field and number of items in quantity field. After exit from last field quantity, the small window will show to ask user to save record as shown in figure 11.

Fig (11) Save Window

When you choose the second option from received menu form, this window will show to update received quantity as shown in figure 12.

Fig (12)Update window

In Item code, if you input unfound value or null value and press Enter key, the LOV (List of Value) will show to display all values of item code and item name in system as show in fig(13).
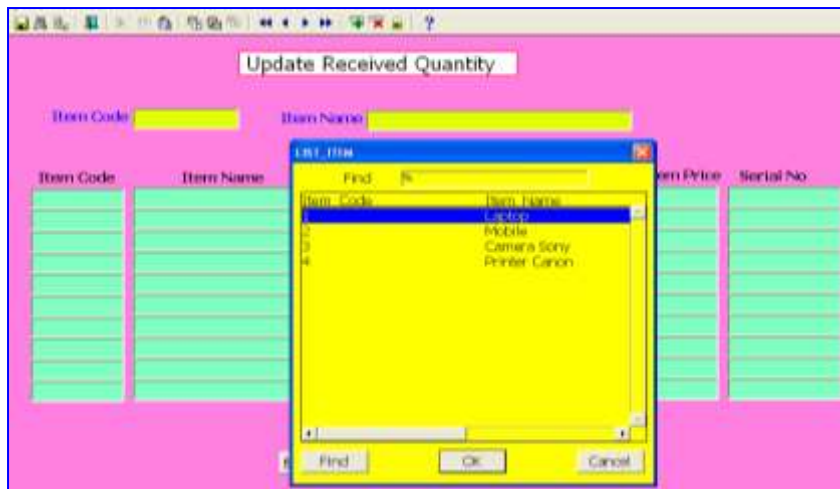

Fig (13) The LOV window

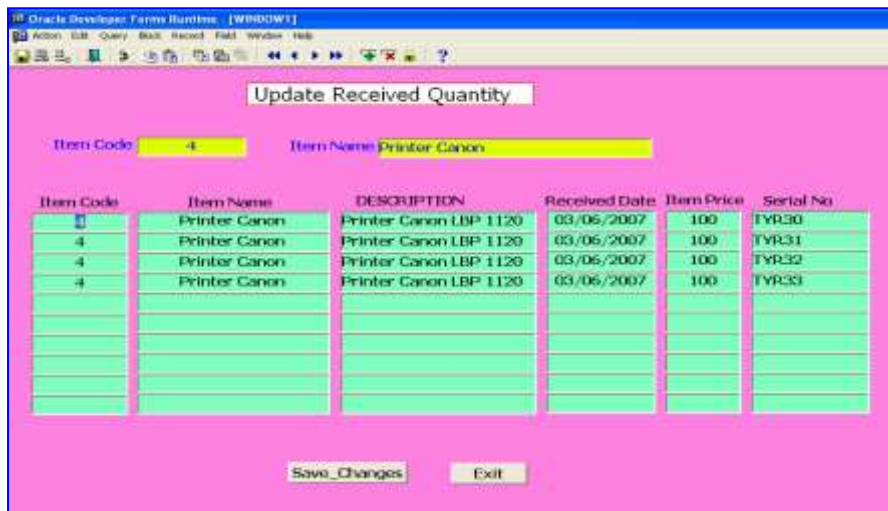Choose item code and OK to display all records of this item in received quantity table as in fig (14).

Fig (14) The update result

In this form change any value and choose Save Change command to confirm the save. When we choose the third option from received menu form,this window will show Delete Received Quantity fig(15).

Fig (15) Delete Received window

Select any record (select any field from the record) and choose delete Record, then the window will show to confirm the deleting. When we choose the second

Option from main menu, this window will show to display warehouse information as shown in fig(16).
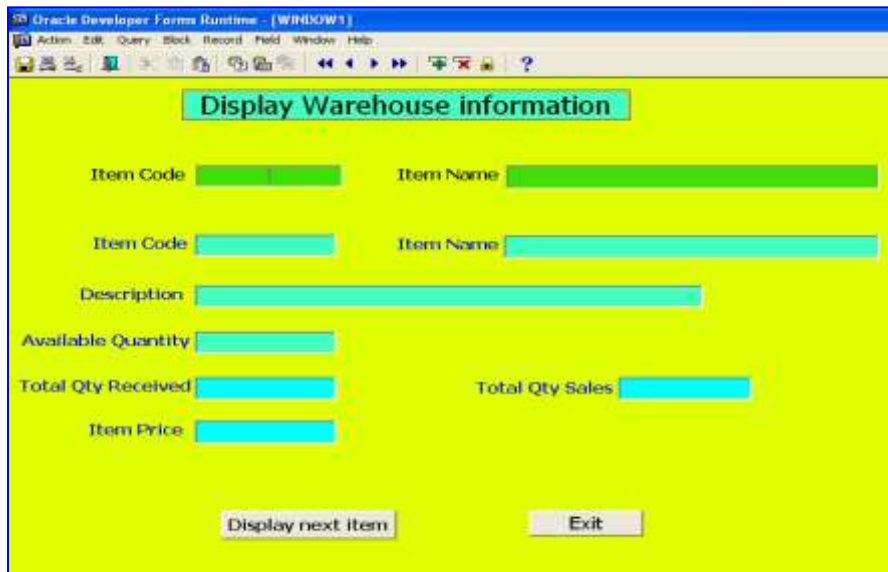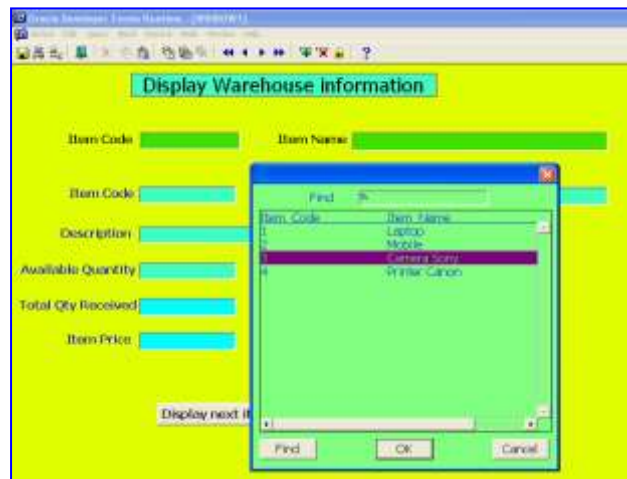

Fig (16) warehouse information window

Available Quantity is not data base field is just display item and its value as this equation.
Available Quantity = Total_Qty_Received – Total_Qty_Sales

The LOV show to display item code and item name that exist in warehouse table as shown in fig(17) after that the warehouse table information appear as show in fig (18) .

Fig(17) The LOV window

Fig (18) warehouse table result

To display next item choose Display next item command, or exit to back to main menu.When you choose third option from main menu, sales menu form as shown in figure 19.

Fig (19) The Sales window

When you choose the first option from sales menu form, this window will show to input sales quantity as in fig (20).

Fig(20) input sales window

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To input sales information, first input customer No. value then input item code, the sales date value is system value; we can change it or leave it, then input quantity as in fig (21).

Fig (21) the input sales result

When we exit from last field (quantity), this window will show to confirm the input.To update sales quantity choose the second option from Sales menu form. First input customer No the input item code, then all items will show according to item no and customer no as in fig (22).

Fig (22) The Update Sales window

When we choose the third option from sales menu, Delete Sales Quantity From will show to delete record from sales quantity table as in fig (23).
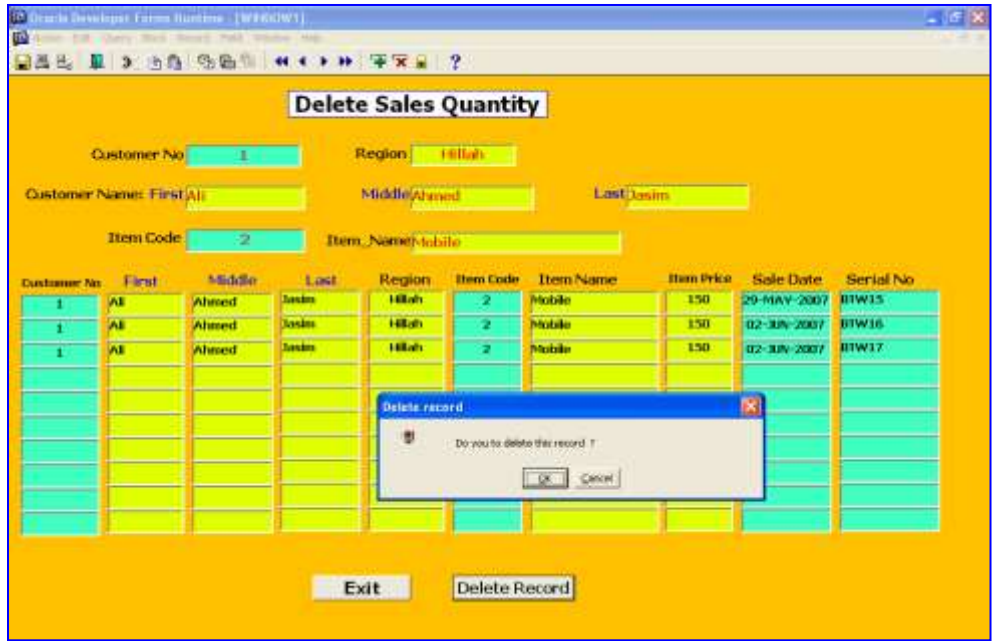
Fig (23)The delete Sales window

First input customer no then input item code, to delete record determine the record (any field of record) and choose Delete Record command, the confirm widow will show, choose Ok to delete or Cancel to cancel the delete. Choose Exit to back to sales menu.
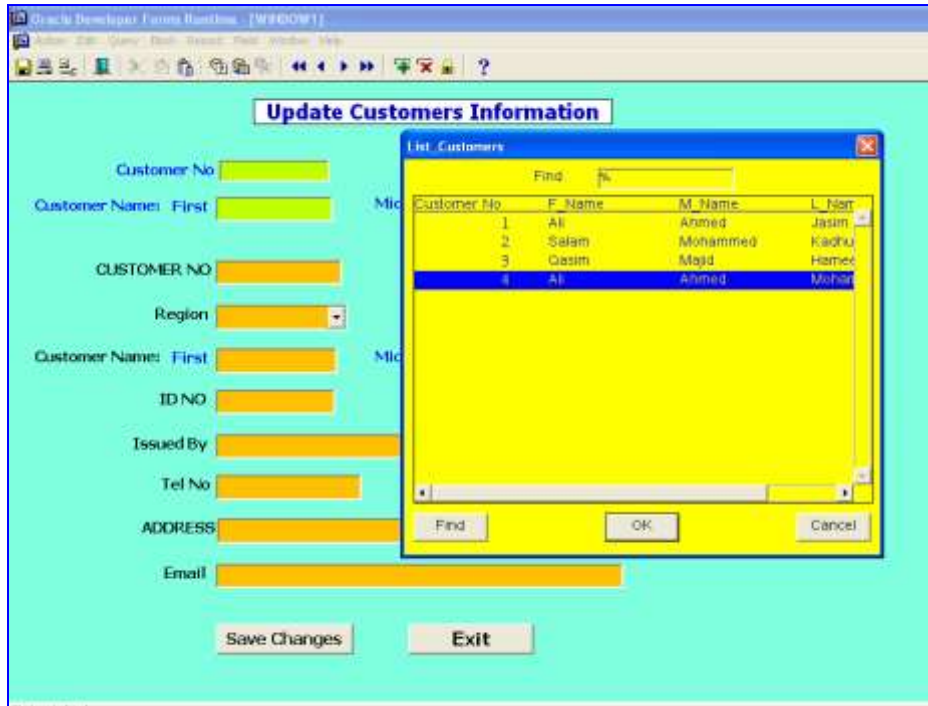
When we choose fourth option from main menu, the customers menu form will show as shown in fig(24).
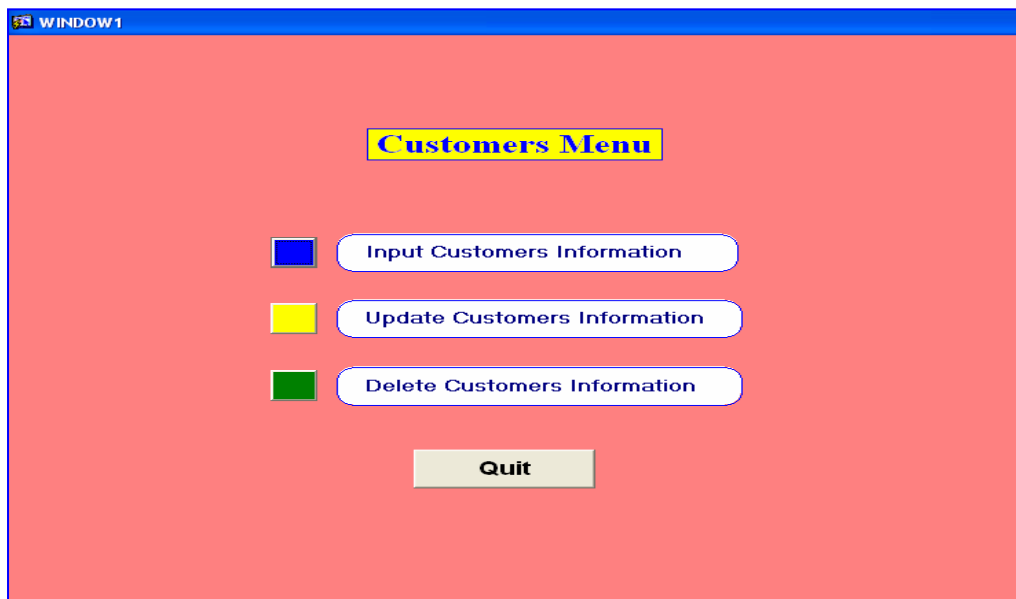
Fig(24) the customers window

To input customers' information, choose first option, If we exit from last field of input customer information form, this window will show to confirm the input.

To update customer's information, choose the second option from customers menu. If we input unfound customer no or null value the LOV will show to display customer no and name as shown in fig (25)and (26).

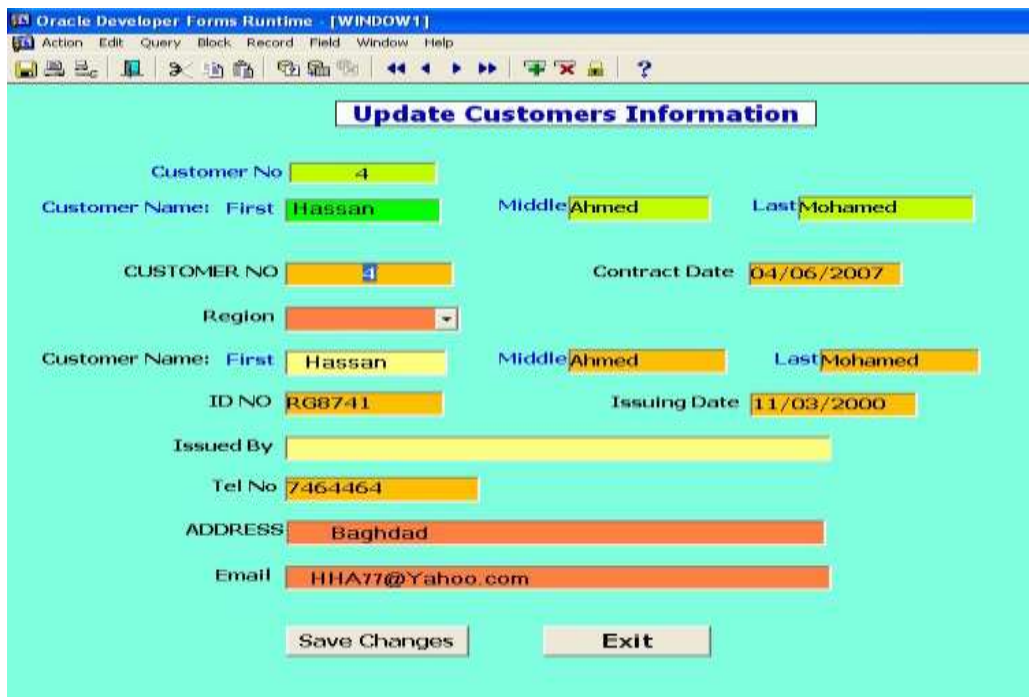**Fig(25) The LOV window**

Fig (26) The update customers window

To delete record from customers table, choose the third option from customers menu. when we choose the fifth option (reports) from main menu, report menu will show as in fig(27).

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Fig (27) The report window

The reports menu has 5 reports:
- Report about received information.
- Report about warehouse information.
- Report 1 about sales information.
- Report 2 about sales information.
- Report about customers' information.

For example when we choose the first report, this report will be shown in figure 28.

Fig (28) Report window

Conclusions

After achievement successfully this sales system in oracle9 & developer6,we found that all companies and departments should have data base system to make it easy to store and retrieve information quickly and flexibly. Especially great companies, department, universities and ministries that have big data bases, many users, high security, different privileges and tasks, all of them need oracle data base to build their system, also good staff for creating and administration of data base. Because of oracle data base is a good solution to all their needs and requirements.

References

[1]   Darlene Bordwell ,"SQL SERVER 2000 DATABASES FOR .NET ENTERPRISE SERVERS", Syngress Publishing, Inc.,2001

[2] Kevin Loney and George Koch," Oracle9*i*: the Complete Reference",the Experts at TUSC,2005

[3] Kalen Delaney,"Inside SQL Server",Microsoft Inc.,1999.

[4] Michele Cyran," Oracle9i Database concepts, Release 2 (9.2)",2004