Database Management Systems III

Laboratory Assignment 01

B.Sc. in IT, Year 3

This practical is aimed at refreshing your previous knowledge of relational SQL and familiarity with Oracle. It would be a good idea to write down the SQL before coming to the practical and also bring along a softcopy if you want to save time at the practical session.

1. Use the following relational database tables for recording the information shown below. Primary keys are underlined. (Assume each client is given a client number for unique reference.)

   client(<u>clno: char(3)</u>, name: varchar(12), address: varchar(30))
   stock(<u>company: char(7)</u>, price: number(6,2), dividend: number(4,2), eps: number(4,2))
   trading(<u>company: char(7), exchange: varchar(12)</u>)
   purchase(<u>clno: char(3), company: char(7), pdate: date</u>, qty: number(6), price: number(6,2))

2. Create the relational tables in Oracle with suitable primary and foreign keys, and insert the sample data given below.

   For example, to create the client table, you can use:
   Create table client (clno char(3), name varchar(12), address varchar(30), primary key(clno));
   Similarly, you can insert a client by using (assuming the first client number is c01):
   Insert into client values ('c01', 'John Smith', '3 East Av, Bentley, WA 6102');

CLIENTS

NAME	ADDRESS	INVESTMENTS			
		COMPANY	PURCHASE PRICE	DATE	QTY
John Smith	3 East Av Bentley WA 6102	BHP	12.00	02/10/01	1000
		BHP	10.50	08/06/02	2000
		IBM	58.00	12/02/00	500
		IBM	65.00	10/04/01	1200
		INFOSYS	64.00	11/08/01	1000
Jill Brody	42 Bent St Perth WA 6001	INTEL	35.00	30/01/00	300
		INTEL	54.00	30/01/01	400
		INTEL	60.00	02/10/01	200
		FORD	40.00	05/10/99	300
		GM	55.50	12/12/00	500

STOCKS

COMPANY	CURRENT PRICE	EXCHANGES TRADED	LAST DIVIDEND	EARNING PER SHARE
BHP	10.50	Sydney New York	1.50	3.20
IBM	70.00	New York London Tokyo	4.25	10.00

INTEL	76.50	New York London	5.00	12.40
FORD	40.00	New York	2.00	8.50
GM	60.00	New York	2.50	9.20
INFOSYS	45.00	New York	3.00	7.80

3. Answer the queries given below, using the tables in your database.

(a) For each client, get the client's name, and the list of the client's investments with stock name, current price, last dividend and earnings per share.

(b) Get the list of all clients and their share investments, showing the client name, and for each stock held by the client, the name of the stock, total number of shares held, and the average purchase price paid by the client for the stock. Average price is the total purchase value paid by a client for a given stock (value=qty*price) divided by the total quantity held by the client.

(c) For each stock traded in New York, find the quantity held by each client, and its current value (value=qty*price). Display stock (company) name, client name, number of shares held, and the current value of the shares.

(d) Find the total purchase value of investments for all clients. Display client name and total purchase value of the client's portfolio.

(e) For each client, list the book profit (or loss) on the total share investment. Book profit is the total value of all stocks based on the current prices less the total amount paid for purchasing them.