Theory and Concept
Assignment #1

Objective: Create tables and specify the Questionries in SQL.

Theory & Concepts:

Introduction about SQL-

SQL (Structured Questionry Language) is a nonprocedural language, you specify what you want, not how to get it. A block structured format of English key words is used in this Questionry language. It has the following components.

DDL (Data Definition Language)-

The SQL DDL provides command for defining relation schemas, deleting relations and modifying relation schema.

DML (DATA Manipulation Language)-

It includes commands to insert tuples into, delete tuples from and modify tuples in the database.

View definition-

The SQL DDL includes commands for defining views.
Transaction Control- SQL includes for specifying the beginning and ending of transactions.

Embedded SQL and Dynamic SQL-

Embedded and Dynamic SQL define how SQL statements can be embedded with in general purpose programming languages, such as C, C++, JAVA, COBOL, Pascal and Fortran.

Integrity-

The SQL DDL includes commands for specifying integrity constraints that the data stored in the database must specify. Updates that violate integrity constraints are allowed.

Authorization-

The SQL DDL includes commands for specifying access rights to relations and views.

Data Definition Language-

The SQL DDL allows specification of not only a set of relations but also information about each relation, including-

- Schema for each relation
- The domain of values associated with each attribute.
- The integrity constraints.
- The set of indices to be maintained for each relation.
- The security and authorization information for each relation.
- The physical storage structure of each relation on disk.

Domain types in SQL-

The SQL standard supports a variety of built in domain types, including-

- Char (n)- A fixed length character length string with user specified length .
- Varchar (n)- A variable character length string with user specified maximum length n.
- Int- An integer.
- Small integer- A small integer.
- Numeric (p, d)-A Fixed point number with user defined precision.
- Real, double precision- Floating point and double precision floating point numbers with machine dependent precision.
- Float (n)- A floating point number, with precision of at least n digits.
- Date- A calendar date containing a (four digit) year, month and day of the month.
- Time- The time of day, in hours, minutes and seconds Eg. Time '09:30:00'.
- Number- Number is used to store numbers (fixed or floating point).

DDL statement for creating a table-

Syntax-

Create table tablename
(columnname datatype(size), columnname datatype(size));

Creating a table from a table-

Syntax-

CREATE TABLE TABLENAME
[(columnname, columnname, ……)]
AS SELECT columnname, columnname……..FROM tablename;

Insertion of data into tables-

Syntax-

INSERT INTO tablename
[(columnname, columnname, ……)]
Values(expression, expression);

Inserting data into a table from another table:

Syntax-

INSERT INTO tablename
SELECT columnname, columnname, …….
FROM tablename;

Insertion of selected data into a table from another table:

Syntax-

```
INSERT INTO tablename
SELECT columnname, columnname……..
FROM tablename
WHERE columnname= expression;
```

Retrieving of data from the tables-

Syntax-

```
SELECT * FROM tablename;
```

The retrieving of specific columns from a table-

Syntax-

```
SELECT  columnname, columnname, ….
FROM tablename;
```

Elimination of duplicates from the select statement-

Syntax-

```
SELECT DISTINCT columnname, columnname
FROM tablename;
```

Selecting a data set from table data-

Syntax-

```
SELECT columnname, columnname
FROM tablename
WHERE searchcondition;
```

Assignment No.1

Q1. Create the following tables:

i) client_master

columnname	datatype	size
client_no	varchar2	6
name	varchar2	20
address1	varchar2	30
address2	varchar2	30
city	varchar2	15
state	varchar2	15
pincode	number	6
bal_due	number	10,2

ii) Product_master

Columnname	datatype	size
Product_no	varchar2	
Description	varchar2	
Profit_percent	number	
Unit_measure	varchar2	
Qty_on_hand	number	
Reoder_lvl	number	
Sell_price	number	
Cost_price	number	

Q2- Insert the following data into their respective tables:

Clientno	Name	city	pincode	state	bal.due
0001	Ivan	Bombay	400054	Maharashtra	15000
0002	Vandana	Madras	780001	Tamilnadu	0
0003	Pramada	Bombay	400057	Maharashtra	5000
0004	Basu	Bombay	400056	Maharashtra	0
0005	Ravi	Delhi	100001		2000
0006	Rukmini	Bombay	400050	Maharashtra	0

Data for Product Master:

Product No.	Desciption	Profit % Percent	Unit measured	Qty on hand	Reorder lvl	Sell price	Cost price
P00001	1.44floppies	5	piece	100	20	525	500
P03453	Monitors	6	piece	10	3	12000	11200
P06734	Mouse	5	piece	20	5	1050	500
P07865	1.22 floppies	5	piece	100	20	525	500
P07868	Keyboards	2	piece	10	3	3150	3050
P07885	CD Drive	2.5	piece	10	3	5250	5100
P07965	540 HDD	4	piece	10	3	8400	8000
P07975	1.44 Drive	5	piece	10	3	1050	1000
P08865	1.22 Drive	5	piece	2	3	1050	1000

Q3:- On the basis of above two tables answer the following Questionries:

i) Find out the names of all the clients.
ii) Retrieve the list of names and cities of all the clients.
iii) List the various products available from the product_master table.
iv) List all the clients who are located in Bombay.
v) Display the information for client no 0001 and 0002.
vi) Find the products with description as ‘1.44 drive’ and ‘1.22 Drive’.
vii) Find all the products whose sell price is greater then 5000.
viii) Find the list of all clients who stay in in city ‘Bombay’ or city ‘Delhi’ or ‘Madras’.
ix) Find the product whose selling price is greater than 2000 and less than or equal to 5000.
x) List the name, city and state of clients not in the state of ‘Maharashtra’.