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Practical Assignment No: 01

Commands:

1. Create:
   Create table of department.

```
SQL> Create table department(dept_id char(10),dept_name char(20),location char(3
0), primary key(dept_id) );

Table created.
```

2. Desc:
   Display all attributes of department table.

```
SQL> desc department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 DEPT_ID                                   NOT NULL CHAR(10)
 DEPT_NAME                                          CHAR(20)
 LOCATION                                           CHAR(30)

SQL>
```

3. Insert into:
   The INSERT INTO statement is used to insert new records in a table.

```
SQL> insert into department values('101','Computer','H Wing');

1 row created.

SQL> insert into department values('201','Chemical','A Wing');

1 row created.
```

4. Delete:
   The DELETE statement is used to delete existing records in a table.
   Delete computer department from department table.

```
SQL> delete from department where department_name='Chemical';

1 row deleted.

SQL> select * from department;

DEPARTMENT_NAME
--------------------
Computer

SQL>
```

5. Drop:
   The DROP TABLE statement is used to drop an existing table in a database.

```
SQL> drop table department;

Table dropped.
```

6. Select:
   The SELECT statement is used to select data from a database.
   Query: Find the names of all branches in the loan relation.

```
SQL> select branch_name from loan;

BRANCH_NAME
---------------
Round Hill
Downtown
Perryridge
Perryridge
Downtown
Redwood
Mianus

7 rows selected.
```

7. Select distinct:

   Query: Find the different branch name in the loan relation.

```
SQL> select distinct branch_name from loan;

BRANCH_NAME
---------------
Perryridge
Round Hill
Downtown
Mianus
Redwood
```

8.

Query: Find loan number ,branch name amount*100 from loan relation.

```
SQL> select loan_number,branch_name,amount*100 from loan;

LOAN_NUMBER                    BRANCH_NAME     AMOUNT*100
------------------------------ --------------- ----------
L-11                           Round Hill           90000
L-14                           Downtown            150000
L-15                           Perryridge          150000
L-16                           Perryridge          130000
L-17                           Downtown            100000
L-23                           Redwood             200000
L-93                           Mianus               50000

7 rows selected.
```

9.And:

Query: Find all loan_numbers, from loan made at the perryridge branch with loan amount greater than 1200.

```
SQL> select loan_number,branch_name,amount from loan where branch_name='Perryrid
ge' and amount>1200;

LOAN_NUMBER                    BRANCH_NAME         AMOUNT
------------------------------ --------------- ----------
L-15                           Perryridge            1500
L-16                           Perryridge            1300
```

10. Alter table:

Query: Add attribute location and dept_id to department table.

```
SQL> alter table department add loacation char(30), dept_id char(30);
alter table department add loacation char(30), dept_id char(30)
                                               *
ERROR at line 1:
ORA-01735: invalid ALTER TABLE option


SQL> alter table department add loacation char(30),dept_id char(30);
alter table department add loacation char(30),dept_id char(30)
                                               *
ERROR at line 1:
ORA-01735: invalid ALTER TABLE option


SQL> alter table department add loacation char(30);

Table altered.

SQL> alter table department add dept_id char(30);

Table altered.
```

11.

Query: Find all customers who have loan from the bank .Find their names, loan numbers and amount.

```
SQL> select customer_name,borrower.loan_number from borrower,loan where borrower
.loan_number=loan.loan_number;

CUSTOMER_NAME                   LOAN_NUMBER
------------------------------ ------------------------------
Adams                           L-16
Curry                           L-93
Hayes                           L-15
Jackson                         L-14
Jones                           L-17
Smith                           L-11
Smith                           L-23
Williams                        L-17

8 rows selected.
```

12. Like:

Query: Find the names of all customers whose street address includes substring ‘main’.

```
SQL> select customer_name from customer where customer_street  like '%Main%';

CUSTOMER_NAME
--------------------
Hyes
Jones
```

13. Union :

Query: To find all bank customers having a loan, account or both at the bank.

```
SQL> select customer_name from borrower union select customer_name from deposito
r;

CUSTOMER_NAME
------------------------------
Adams
Curry
Hayes
Hayes
Jackson
Johnson
Jones
Jones
Lindsay
Smith
Smith

CUSTOMER_NAME
------------------------------
Turner
Williams

13 rows selected.
```

14. Intersection :

Query: Find all customers who have loan an account at the bank.

```
SQL> select customer_name from borrower where customer_name in(select customer_n
ame from depositor;
select customer_name from borrower where customer_name in(select customer_name f
rom depositor

            *
ERROR at line 1:
ORA-00907: missing right parenthesis


SQL> select customer_name from borrower where customer_name in(select customer_n
ame from depositor);

CUSTOMER_NAME
------------------------------
Hayes
Jones
Smith
Smith
```

15. Minus :

Query: Find all customers who have an account but no loan at the bank.

```
SQL> select customer_name from depositor minus select customer_name from borrowe
r;

CUSTOMER_NAME
------------------------------
Hayes
Johnson
Jones
Lindsay
Smith
Turner

6 rows selected.

SQL>
```

16. Some:

Query: Find the names of all branches that have assets greater than those of at least one branch located in “Brooklyn”.

```
SQL> select branch_name from branch where assets>some(select assets from branch
where branch_city='Brooklyn');

BRANCH_NAME
---------------
Downtown
Round Hill
```

17. Average:

Query: Find average account balance at the Perry ridge Branch

```
SQL> select avg(balance) from account where branch_name='Perryridge';

AVG(BALANCE)
------------
         400

SQL>
```

18.Count:

Query: find numbers of customers in customer relation.

```
SQL> select count(*) from customer;

  COUNT(*)
----------
        12
```

19. Group by:

Query: find numbers of depositors for each branch.

```
SQL> select branch_name,count(customer_name) from depositor,account where deposi
tor.account_number=account.account_number group by branch_name;

BRANCH_NAME          COUNT(CUSTOMER_NAME)
-------------------- --------------------
Downtown                                1
Brighton                                2
Mianus                                  1
Perryridge                              1
Redwood                                 1
Round Hill                              1

6 rows selected.
```

20.Having:

Query: Find the names of all branches where average account balance is more than $1200.

```
SQL> select branch_name,avg (balance) from account group by branch_name having a
vg(balance)<1200;

BRANCH_NAME          AVG(BALANCE)
-------------------- ------------
Downtown                      500
Brighton                      825
Mianus                        700
Perryridge                    400
Redwood                       700
Round Hill                    350

6 rows selected.
```

21. Order by:

Query: List in alphabetical order of names of customers having a loan in Perry ridge branch.

```
SQL> select customer_name from borrower,loan where borrower.loan_number=loan.loa
n_number and branch_name='Perryridge' order by customer_name;

CUSTOMER_NAME
------------------------------
Adams
Hayes

SQL>
```

22. Update:

Query: Change location of chemical department as B.

```
SQL> select * from department;

DEPARTMENT_NAME      LOACATION
-------------------- ------------------------------
DEPT_ID
------------------------------
Chemical             A
210

Computer



SQL> upate department set loacation='B' where dept_id='210';
SP2-0734: unknown command beginning "upate depa..." - rest of line ignored.
SQL> update department set loacation='B' where dept_id='210';

1 row updated.

SQL> select * from department;

DEPARTMENT_NAME      LOACATION
-------------------- ------------------------------
DEPT_ID
------------------------------
Chemical             B
210

Computer
```

23. Rename

Query: Rename location as dept_loc.

```
SQL> desc department;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------

 DEPARTMENT_NAME                                    CHAR(20)
 LOACATION                                          CHAR(30)
 DEPT_ID                                            CHAR(30)

SQL> select * from department;

DEPARTMENT_NAME      LOACATION
-------------------- ------------------------------
DEPT_ID
------------------------------
Chemical             B
210

Computer



SQL> select loacation as dept_loc
  2  from department;

DEPT_LOC
------------------------------
B
```

24. Sum:

Query: Find total sum of balance at Brighton branch.

```
SQL> SELECT SUM(balance)
  2  FROM account
  3  WHERE branch_name='Brighton';

SUM(BALANCE)
------------
        1650
```

25. Min and Max:

Query: Find minimum and maximum balance from Brighton branch.

```
SQL> select * from account;

ACCOUNT_NUMBER  BRANCH_NAME            BALANCE
--------------- -------------------- ----------
A101            Downtown                    500
A102            Perryridge                  400
A201            Brighton                    900
A215            Mianus                      700
A217            Brighton                    750
A222            Redwood                     700
A305            Round Hill                  350

7 rows selected.

SQL>  SELECT MAX(balance) from account where branch_name='Brighton';

MAX(BALANCE)
------------
         900

SQL>  SELECT min(balance) from account where branch_name='Brighton';

MIN(BALANCE)
------------
         750

SQL>
```