DATABASE MANAGEMENT SYSTEM LAB

School of Computer Applications

Department of Computer Applications

Student Name	harsh pradhan
Roll No	***24/SCA/BCA(AI&ML)/024***
Programme	***BCA (AI&ML)***
Semester	***1st Semester***
Section/Group	***I B***
Department	***Computer Applications***
Batch	***2024-2028***
Faculty Name	***Mrs. Shruti***

Exercise No.-1

TITLE: CREATION OF TABLES

1)Create a table called Employee with the following structure.

NAME	TYPE
Empno	Number
Ename	Varchar2(20)
Job	Varchar2(20)
Mgr	Number
Sal	Number

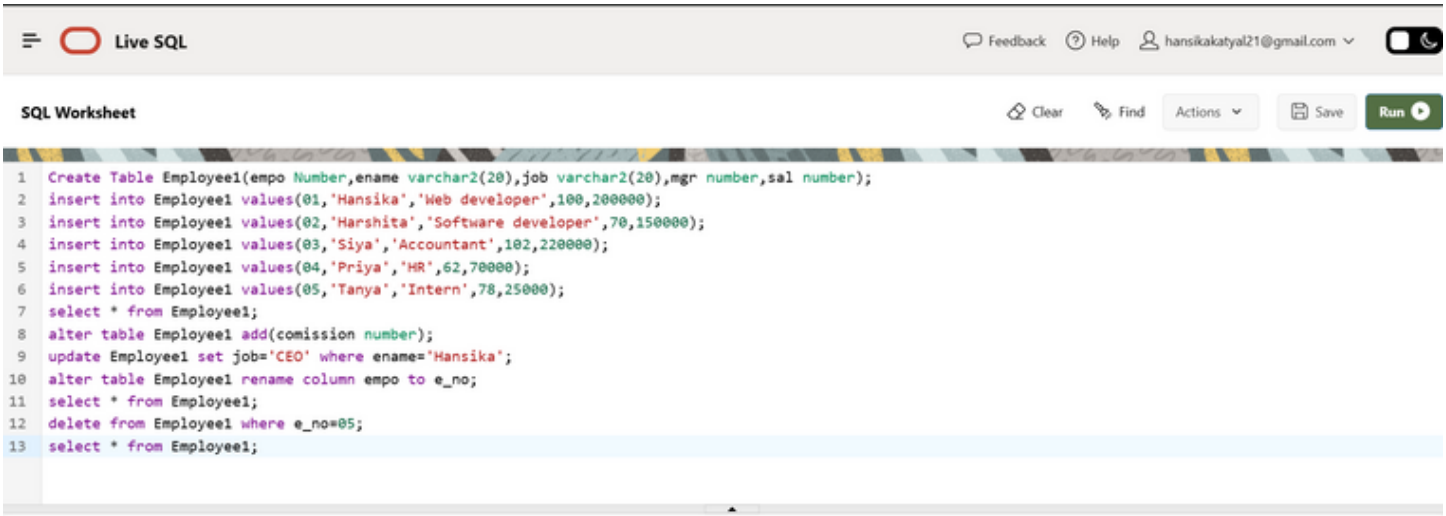
Queries

1. Add a column commission with the domain to the employee table.
2. Insert any five records into the table.
3. Update the column details of job.
4. Rename the column of employee table using alter command.
5. Delete the employee whose empno is 05.

Objective: Implement the basic knowledge of SQL queries and relational algebra.

Pre-requisites: Basic understanding of SQL

SOLUTION:



E_NO	ENAME	JOB	MGR	SAL	COMISSION
1	Hansika	CEO	100	200000	-
2	Harshita	Software developer	70	150000	-
3	Siya	Accountant	102	220000	-
4	Priya	HR	62	70000	-

Exercise No.-2

TITLE: CREATION OF TABLE

2) Create department table with the following structure.

Name	Type
Deptno	Number
Deptname	Varchar2(20)
Location	Varchar2(20)

Objective: Implement the basic knowledge of SQL queries and relational algebra.

Pre-requisites: Basic understanding of SQL

SOLUTION:

a. Add column designation to the department table.

```
1  create table department(dept_no Number primary key,name varchar2(20),location varchar2(20));
2  alter table department add(designation varchar2(30));
```

b. Insert values into the table.

```
create table department(dept_no Number primary key,name varchar2(20),location varchar2(20));
alter table department add(designation varchar2(30));
insert into department values(05,'Hansika','Rohtak','Haryana');
insert into department values(06,'Vanshika','Faridabad','Haryana');
insert into department values(07,'Riya','Karnal','Haryana');
insert into department values(08,'Simran','Hisar','Haryana');
insert into department values(09,'Khushi','Jind','Haryana');
select * from department
```

Output:

DEPT_NO	NAME	LOCATION	DESIGNATION
5	Hansika	Rohtak	Haryana
6	Vanshika	Faridabad	Haryana
7	Riya	Karnal	Haryana
8	Simran	Hisar	Haryana
9	Khushi	Jind	Haryana

c. List the records of emp table grouped by deptno.

```
select * from department where dept_no=05;
```

Output :

DEPT_NO	NAME	LOCATION	DESIGNATION
5	Hansika	Rohtak	Haryana

d. Update the record where deptno is 104.

```
update department set name='Khushi'where dept_no=09;
```

Output:

7	Riya	Karnal	Haryana
8	Simran	Hisar	Haryana
9	Khushi	Jind	Haryana

e. Delete any column data from the table.

```
delete from department where dept_no=05;
select * from department
```

Output:

7	Riya	Karnal	Haryana
8	Simran	Hisar	Haryana
9	Khushi	Jind	Haryana

Exercise No.-3

TITLE: CREATION OF TABLES

3) Create table called customer table.

Name	**Type**
Cust_name	varchar2(20)
cust_street	varchar2(20)
cust _city	varchar2(20)

Objective: Implement the basic knowledge of SQL queries and relational algebra.

Pre-requisites: Basic understanding of SQL

SOLUTION:

```
1  create table customer(name varchar2(30), street varchar2(30), city varchar2(20));
2  desc customer;
```

Output:

TABLE CUSTOMER

Column	Null?	Type
NAME	-	VARCHAR2(30)
STREET	-	VARCHAR2(30)
CITY	-	VARCHAR2(20)

- Insert records into the table.

```
create table customer(name varchar2(30), street varchar2(30), city varchar2(20));
desc customer;
insert into customer values('Hansika','no-10','Rohtak');
insert into customer values('Vilohit','no-11','Faridabad');
insert into customer values('Vanshika','no-12','Delhi');
insert into customer values('Harsh','no-13','Pune');
select * from customer
```

Output:

NAME	STREET	CITY
Hansika	no-10	Rohtak
Vilohit	no-11	Faridabad
Vanshika	no-12	Delhi
Harsh	no-13	Pune

a. Alter the table column domain.

```
alter table customer modify(name varchar2(50));
select * from customer;
```

Output:

Hansika	no-10	Rohtak
Vilohit	no-11	Faridabad
Vanshika	no-12	Delhi
Harsh	no-13	Pune

a. Add salary column to the table.

```
10  alter table customer add(salary number);
11  select * from customer;
```

Output:

NAME	STREET	CITY	SALARY
Hansika	no-10	Rohtak	-
Vilohit	no-11	Faridabad	-
Vanshika	no-12	Delhi	-
Harsh	no-13	Pune	-

a. Drop salary column of the customer table.

```
12  alter table customer drop(salary);
13  select * from customer;
```

Output:

NAME	STREET	CITY
Hansika	no-10	Rohtak
Vilohit	no-11	Faridabad
Vanshika	no-12	Delhi
Harsh	no-13	Pune

a. Delete the rows of customer table whose cust_city is ‘hyd’.

```
14  delete from customer where city='Delhi';
15  select * from customer;
```

Output:

NAME	STREET	CITY
Hansika	no-10	Rohtak
Vilohit	no-11	Faridabad
Harsh	no-13	Pune

Exercise No.-4

TITLE: CREATION OF TABLES

4) Create table called branch table.

Name	Type
Branch name	Varchar2(20)
Branch city	Varchar2(20)
Asserts	Number

Objective: Implement the basic knowledge of SQL queries and relational algebra.

Pre-requisites: Basic understanding of SQL

SOLUTION:

a. Increase the size of data type for asserts to the branch.

```
6  alter table branch modify(asserts varchar2(20));
7  desc branch;
```

a. Add and drop a column to the branch table.

Add:

```
8  alter table branch add(branch_no number);
9  select * from branch;
```

Output:

BRANCH_NAME	BRANCH_CITY	ASSERTS	BRANCH_NO
sector-56	faridabad	concerte	-
green field	faridabad	well being	-
jagdih colony	faridabad	supplement	-

Drop:

```
10  alter table branch drop(asserts);
11  select * from branch;
```

Output:

BRANCH_NAME	BRANCH_CITY	BRANCH_NO
sector-56	faridabad	-
green field	faridabad	-
jagdih colony	faridabad	-

c. Insert values to the table.

```
1  create table branch(branch_name varchar2(20), branch_city varchar2(20), asserts varchar2(20));
2  insert into branch values('sector-56','faridabad','concerte');
3  insert into branch values('green field','faridabad','well being');
4  insert into branch values('jagdih colony','faridabad','supplement');
5  select * from branch
```

Output:

BRANCH_NAME	BRANCH_CITY	ASSERTS
sector-56	faridabad	concerte
green field	faridabad	well being
jagdih colony	faridabad	supplement

a. Update the branch name column.

```
12  update branch set branch_name='Hansika' where branch_city='Rohtak';
```

Output:

```
0 row(s) updated.
```

a. Delete any columns from the table.

```
13  delete from branch where branch_city='faridabad';
```

Output:

no data found

Exercise No.-5

TITLE: CREATION OF TABLES

5) Create a table called sailor table.

Name	Type
Sid	Number
Sname	varchar2(20)
Rating	varchar2(20)

Objective: Implement the basic knowledge of SQL queries and relational algebra.

Pre-requisites: Basic understanding of SQL

SOLUTION:

For creating table

```
1  create table sailor(sid number, sname varchar2(20), rating number);
```

A . Add column age to the sailor table.

```
8  alter table sailor
9  add age number;
```

a. Insert values into the sailor table.

```
1  create table sailor(sid number, sname varchar2(20), rating number);
2  insert into sailor values(1,'Seema', 26);
3  insert into sailor values(2,'Rita', 34);
4  insert into sailor values(3,'vidhya', 67);
5  insert into sailor values(4,'Meena', 56);
6  insert into sailor values(5,'Arna', 48);
7  select * from sailor
```

Output:

SID	SNAME	RATING
1	Seema	26
2	Rita	34
3	vidhya	67
4	Meena	56
5	Arna	48

a. Delete the row with rating

```
9  delete from sailor where rating > 8;
```

Output :

```
row(s) deleted.
```

a. Update the column details of sailor.

```
8  update sailor set age = 30 where Rita = 2;
9  select * from sailor
```

Output :

1	Seema	26
2	Rita	34
3	vidhya	67
4	Meena	56
5	Arna	48

a. Insert null values into the table.

```
INSERT INTO sailor VALUES(6, NULL, NULL, NULL);
```

Output :

6	-	-	-

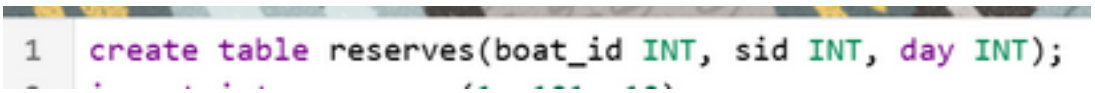
Exercise No.-6

TITLE: CREATION OF TABLES

6) Create a table called reserves table.

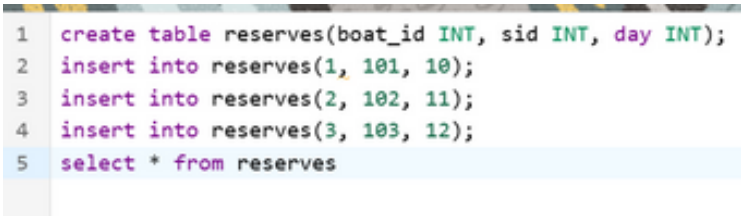
Name	Type
Boat id	Integer
Sid	Integer
Day	Integer

For creation of table :



```
1  create table reserves(boat_id INT, sid INT, day INT);
```

1. Insert values into the reserves table.



```
1  create table reserves(boat_id INT, sid INT, day INT);
2  insert into reserves(1, 101, 10);
3  insert into reserves(2, 102, 11);
4  insert into reserves(3, 103, 12);
5  select * from reserves
```

Output :

BOAT_ID	SID	DAY
1	101	10
2	102	11
3	103	12

b. Add column time to the reserves table.

```
6  alter table reserves add time varchar2(30);
```

Output :

BOATID	SID	DAY	TIME
1	101	10	-
2	102	11	-
3	103	12	-

a. Alter the column day data type to date.

```
7  alter table reserves modify day int;
```

a. Drop the column time in the table.

```
8  alter table reserves drop column time;
```

Output :

BOATID	SID	DAY
1	101	10
2	102	11
3	103	12

a. Delete the row of the time table with some condition.

```
delete from reerves where boat_id = 2 and sid = 102;
```

Output :

BOATID	SID	DAY
1	101	10
3	103	12