GROUP 4 CO-1

AIM:

Consider the database for a college and design an ER diagram. Write the query for the following.

Create the tables:

Student (sid, sname, sex, dob, dno)

Department (dno, dname)

Faculty (F id, fname, designation, salary,dno)

Course (cid, cname, credits,dno)

Register(sid,cid,sem)

Teaching(f id,cid,sem)

Hostel(hid,hname,seats,)

Include the necessary constraints NOT NULL, DEFAULT, CHECK, and PRIMARY KEY, UNIQUE.

- (i) Create a databasecollege
- (ii) Use college as the currentdatabase
- (iii) Display all the tables in collegedatabase
- (iv) Describe the structure of alltables
- (v) Modify the student table to add a new field 'grade'

Consider the database for a college. Write the query for the following.

- a. Insert at least 5 tuples into each table.
- b. List the details of students in the ascending order of date of birth
- c. Display the details of students from computer department
- d. List the faculties in the descending order of salary

- e. Display the total number of students in each department
- f. Display the total number of faculties in each department with salary greater than 25000

CODE:

```
create database college; use college;
```

create table department(dno varchar(20) not null,dname varchar(20) not null,primary key(dno));

create table student(sid varchar(20) not null,sname varchar(20) not null,sex varchar(10) not null,dob date not null,dno varchar(20) not null,primary key(sid),foreign key(dno) references department(dno) on delete cascade);

create table faculty(fid varchar(20) not null,fname varchar(30) not null,designation varchar(20) not null,salary integer(10) check (salary>5000 and salary <=150000),dno varchar(20) not null,primary key(fid),foreign key(dno) references department(dno) on delete cascade);

create table course(cid varchar(20) not null,cname varchar(20) not null,credits integer(10) not null,dno varchar(20) not null,primary key(cid),foreign key(dno) references department(dno) on delete cascade);

create table register(sid varchar(20) not null,cid varchar(20) not null,sem varchar(10) not null,foreign key(sid) references student(sid) on delete cascade,foreign key(cid) references course(cid) on delete cascade);

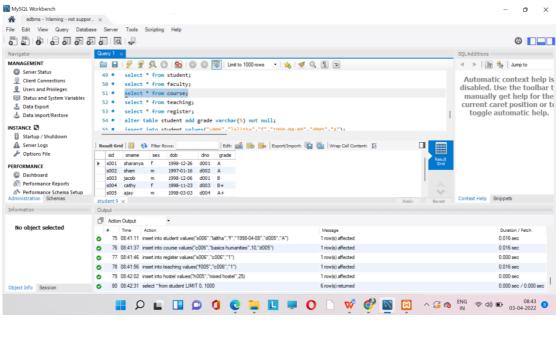
create table teaching(fid varchar(20) not null,cid varchar(20) not null,sem varchar(10) not null,foreign key(fid) references faculty(fid) on delete cascade,foreign key(cid) references course(cid) on delete cascade);

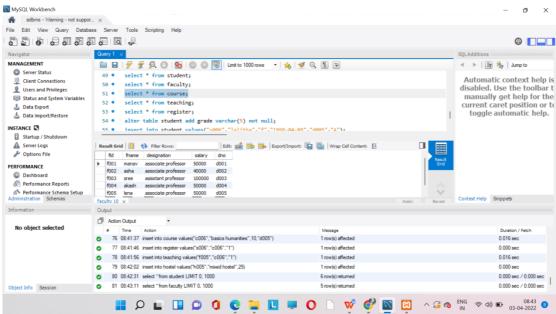
create table hostel(hid varchar(20) not null,hname varchar(20) not null default "modern hostel",seats integer(20) not null,unique(hid));

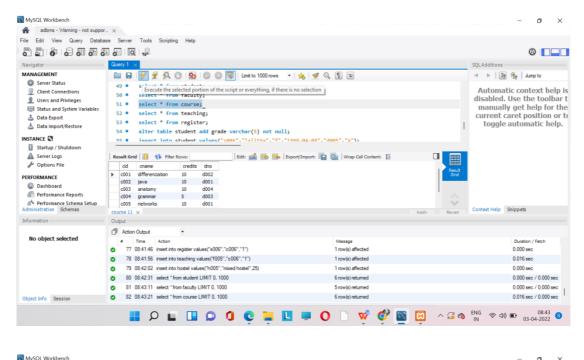
```
insert into department values("d001","computer");
insert into department values("d002","maths");
insert into department values("d003", "english");
insert into department values("d004", "science");
insert into department values("d005","humanities");
insert into student values("s001", "sharanya", "f", "1998-12-26", "d001");
insert into student values("s002", "sham", "m", "1997-01-16", "d002");
insert into student values("s003","jacob","m","1998-12-06","d001");
insert into student values("s004", "cathy", "f", "1998-11-23", "d003");
insert into student values("s005", "ajay", "m", "1998-03-03", "d004");
insert into faculty values("f001", "manav", "associate professor", 50000, "d001");
insert into faculty values("f002", "asha", "associate professor", 40000, "d002");
insert into faculty values("f003", "sree", "asisstant professor", 100000, "d003");
insert into faculty values("f004", "akash", "associate professor", 50000, "d004");
insert into faculty values("f005","lena","associate professor",50000,"d005");
insert into course values("c001","differenciation",10,"d002");
insert into course values("c002", "java", 10, "d001");
insert into course values("c003", "anatomy", 10, "d004");
```

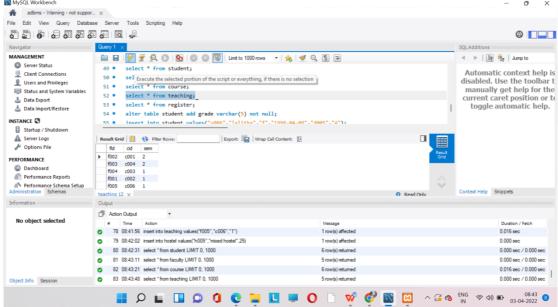
```
insert into course values("c004","grammar",5,"d003");
insert into course values("c005","networks",10,"d001");
insert into course values("c006", "basics humanities", 10, "d005");
insert into register values("s001","c002","1");
insert into register values("s001","c005","1");
insert into register values("s002","c001","2");
insert into register values("s005","c003","1");
insert into register values("s004","c004","2");
insert into register values("s003","c002","1");
insert into register values("s006","c006","1");
insert into teaching values("f001","c002","1");
insert into teaching values("f002","c001","2");
insert into teaching values("f003","c004","2");
insert into teaching values("f004","c003","1");
insert into teaching values("f005", "c006", "1");
insert into hostel values("h001", "rose hostel", 20);
insert into hostel values("h002", "general hostel", 20);
insert into hostel values("h003","boys hostel",20);
insert into hostel values("h004", "working hostel", 20);
insert into hostel values("h005","mixed hostel",25);
select * from department;
select * from student;
select * from faculty;
select * from course;
select * from teaching;
select * from register;
alter table student add grade varchar(5) not null;
insert into student values("s006","lalitha","f","1998-04-08","d005","A");
update student set grade="A" where sid="s001";
update student set grade="A" where sid="s002";
update student set grade="B" where sid="s003";
update student set grade="B+" where sid="s004";
update student set grade="A+" where sid="s005";
select * from student order by dob;
select * from student where dno="d001";
select * from faculty order by salary desc;
select count(sid) as "no of student", dno from student group by dno;
select count(fid) as "no of faculty", dno from faculty group by dno having
salary>=25000;
```

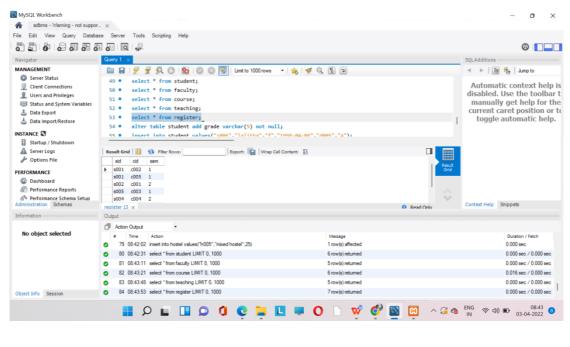
OUTPUT:

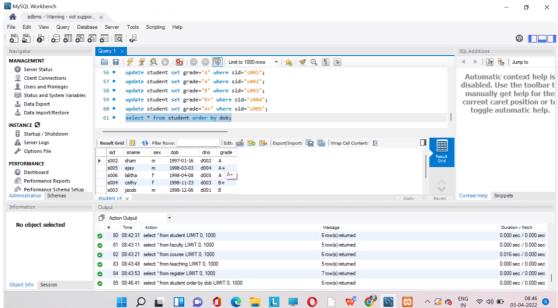


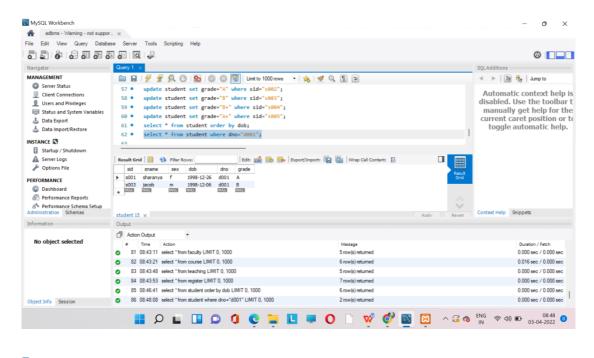


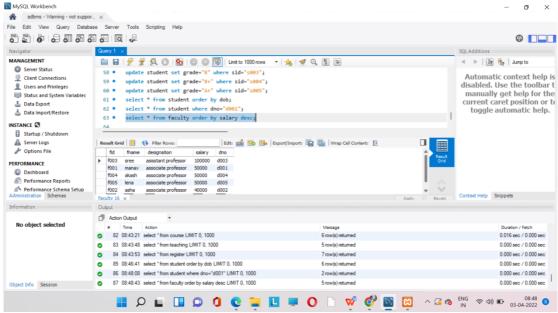


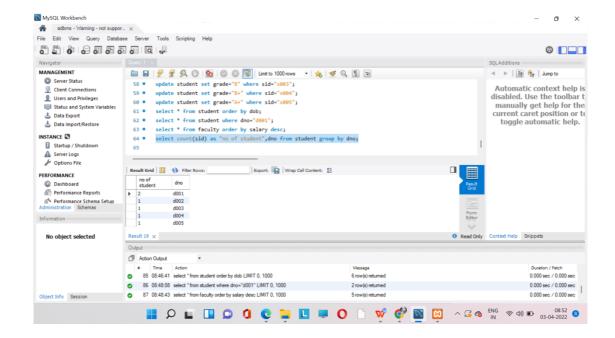












QUESTION 2:

Queries using aggregate functions(COUNT,AVG,MIN,MAX,SUM),Group by,Order by,Having.

E_ID	E_NAME	AGE	SALARY
101	ANU	22	9000
102	Shane	29	8000
103	Rohan	34	6000
104	Scott	44	10000
105	Tiger	35	8000
106	Alex	27	7000
107	Abhi	29	8000

- (i) Create Employee table containing all Records.
- (ii) Count number of employee names from employee table.
- (iii) Find the Maximum age from employee table
- (iv) Find the Minimum age from employee table.
- (v) Display the Sum of age employee table.
- (vi) Display the Average of age from Employee table
- (vii) Create a View for age in employee table
- (viii) Display views
- (ix) Find grouped salaries of employees.
- (x) Find salaries of employee in Ascending Order
- (xi) Find salaries of employee in Descending Order

Script:

(i) Query:

CREATE DATABASE EMPLOYEE; USE EMPLOYEE; CREATE TABLE Employee(E_ID INT(25), E_NAME VARCHAR(25), AGE INT(10), SALARY FLOAT(10), PRIMARY KEY(E_ID));

```
INSERT INTO Employee VALUES (101,"ANU",22,9000);
 INSERT INTO Employee VALUES (102,"SHANE",29,8000);
 INSERT INTO Employee VALUES (103,"ROHAN",34,6000);
 INSERT INTO Employee VALUES (104,"SCOTT",44,10000);
 INSERT INTO Employee VALUES (105,"TIGER",35,8000);
 INSERT INTO Employee VALUES (106,"ALEX",27,7000);
 INSERT INTO Employee VALUES (107,"ABHI",29,8000);
(ii) Query:
 SELECT COUNT(E_NAME) FROM Employee;
(iii) Query:
 SELECT MAX(AGE) FROM Employee;
(iv) Query:
 SELECT MIN(AGE) FROM Employee;
(v) Query:
 SELECT SUM(AGE) FROM Employee;
(vi) Query:
 SELECT AVG(AGE) FROM Employee;
(vii) Query:
 CREATE VIEW E AGE AS
 SELECT E NAME, AGE FROM Employee;
(viii) Query:
 SELECT * FROM E_AGE;
(ix) Query:
 SELECT E NAME, SALARY FROM Employee GROUP BY E NAME;
```

Inserting rows:

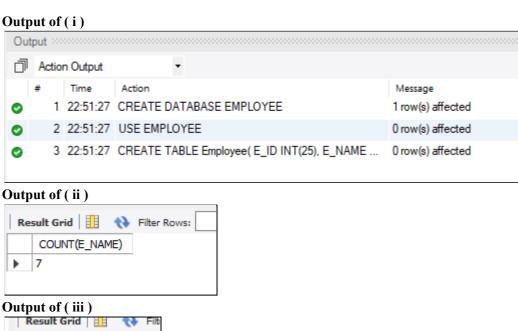
(x) Query:

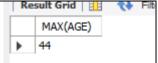
SELECT SALARY FROM Employee ORDER BY SALARY ASC;

(xi) Query:

SELECT SALARY FROM Employee ORDER BY SALARY DESC;

OUTPUT





Output of (iv)



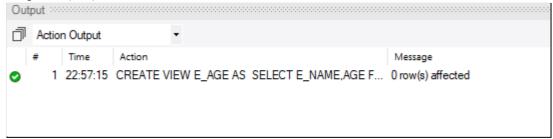
Output of (v)



Output of (vi)



Output of (vii)



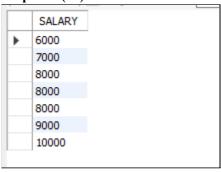
Output of (viii)

ANU 22
SHANE 29
ROHAN 34
SCOTT 44
TIGER 35
ALEX 27
ABHI 29

Output of (ix)

	E_NAME	SALARY
•	ABHI	8000
	ALEX	7000
	ANU	9000
	ROHAN	6000
	SCOTT	10000
	SHANE	8000
	TIGER	8000

Output of (x)



Output of (xi)

	SALARY
•	10000
	9000
	8000
	8000
	8000
	7000
	6000