

**DBMS & GUI
LAB MANUAL
COURSE CODE: 15CS55P**

**FOR 3rd Sem CS & E
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Exercise- 1 & 2**CREATE THE FOLLOWING TABLES FOR A COMPANY DATA BASE &
ILLUSTRATE THE USE OF CONSTRAINTS****1. EMPLOYEE**

```
create table employee  
(fname varchar(9) not null,  
minit char,  
lname varchar(9) not null,  
ssn char(6) not null,  
bdate date,  
address varchar(20),  
sex char,  
salary int,  
superssn char(6) not null,  
dno int not null,  
primary key(ssn),  
foreign key(superssn) references  
employee(ssn));
```

Table created

2. DEPARTMENT

```
create table department  
( dname varchar(9) not null,  
dnumber int not null,  
mgrssn char(6) not null,  
mgrstartdate date,  
primary key(dnumber),  
foreign key (mgrssn) references employee(ssn));
```

Table created

3. DEPTLOCATION

```
create table deptlocation  
(dnumber int not null,  
dlocation varchar(10) not null,  
primary key(dnumber,dlocation),  
foreign key (dnumber) references  
department(dnumber));
```

Table created

4. PROJECT

```
create table project  
(pname varchar(9) not null,  
pnumber int not null,  
plocation varchar(9),  
dnum int not null,  
primary key(pnumber),  
unique (pname),  
foreign key(dnum) references  
department(dnumber));
```

Table created

5. WORKS_ON

```
create table workson  
(essn char(6) not null,  
pnumber int not null,  
hours decimal(3,1) not null,  
foreign key(essn) references employee(ssn));
```

Table created

6. DEPENDENT

```
create table dependent  
(essn char(6) not null,  
dependentname varchar(9) not null,  
sex char,  
bdate date,  
relationship varchar(8),  
primary key(essn,dependentname),  
foreign key(essn) references employee(ssn));
```

Table created

SQL>desc employee

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	FNAME	Varchar2	9	-	-	-	-	-	-
	MINIT	Char	1	-	-	-	✓	-	-
	LNAME	Varchar2	9	-	-	-	-	-	-
	SSN	Char	6	-	-	1	-	-	-
	BDATE	Date	7	-	-	-	✓	-	-
	ADDRESS	Varchar2	20	-	-	-	✓	-	-
	SEX	Char	1	-	-	-	✓	-	-
	SALARY	Number	-	-	0	-	✓	-	-
	SUPERSSN	Char	6	-	-	-	-	-	-
	DNO	Number	-	-	0	-	-	-	-
1 - 10									

SQL> desc department

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENT	DNAME	Varchar2	9	-	-	-	-	-	-
	DNUMBER	Number	-	-	0	1	-	-	-
	MGRSSN	Char	6	-	-	-	-	-	-
	MGRSTARTDATE	Date	7	-	-	-	✓	-	-
1 - 4									

SQL> desc deptlocation

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPTLOCATION	DNUMBER	Number	-	-	0	1	-	-	-
	DLOCATION	Varchar2	10	-	-	2	-	-	-
1 - 2									

SQL> desc project

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PROJECT	PNAME	Varchar2	9	-	-	-	-	-	-
	PNUMBER	Number	-	-	0	1	-	-	-
	PLOCATION	Varchar2	9	-	-	-	✓	-	-
	DNUM	Number	-	-	0	-	-	-	-
1 - 4									

Desc dependent

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPENDENT	ESSN	Char	6	-	-	1	-	-	-
	DEPENDENTNAME	Varchar2	9	-	-	2	-	-	-
	SEX	Char	1	-	-	-	✓	-	-
	BDATE	Date	7	-	-	-	✓	-	-
	RELATIONSHIP	Varchar2	8	-	-	-	✓	-	-
1 - 5									

Desc workson

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
WORKSON	ESSN	Char	6	-	-	-	-	-	-
	PNUMBER	Number	-	-	0	-	-	-	-
	HOURS	Number	-	3	1	-	-	-	-
1 - 3									

3. QUERIES TO ILLUSTRATE THE USE OF DATA MANIPULATION STATEMENT (INSERTING VALUES INTO A TABLE)

1. EMPLOYEE

```
SQL> insert into employee values('Ajay','d','kiran','12341','01-sep-97','Bangalore','M',19000,'12341',1);
SQL> insert into employee values('Usman','d','khan','12342','15-sep-99','Patna','M',19500,'12342',2);
SQL> insert into employee values('Rohan','a','rohit','12343','01-jan-2000','Hampi','M',20000,'12343',3);
SQL>insert into employee values('Mallik','a','arjun','12344','06-sep-99','Udupi','M',20500,'12344',4);
SQL>insert into employee values('shashi','P','shinde','12345','14-feb-97','kolar','M',21000,'12345',5);
SQL>insert into employee values('Srikant','k','s.m','12346','10-dec-98','hubli','M',21500,'12346',6);
SQL>insert into employee values('rajshekhar','s','guna','12347','13-june-90','goa','M',22000,'12347',7);
SQL>insert into employee values('Venkatesh','g','anku','12348','19-aug-2000','chennai',22500,'12348', 8);
SQL> insert into employee values('harshak','b','reddy','12349','16-jun-99','hyderabad','m',25500,'12350',9);
SQL> insert into employee values ('harini','v','shet','12350','11-mar -98','shivajinagar','f',25500,'12350',10);
```

2. DEPARTMENT

```
SQL> insert into department values('CS',101,'12341','01-JAN-90');
SQL> insert into department values('ME',102,'12342','20-MAR-91');
SQL> insert into department values('CE',103,'12343','30-JUN-92');
SQL> insert into department values('AM',104,'12344','15-AUG-94');
SQL> insert into department values('CP',105,'12345','26-SEP-95');
SQL> insert into department values('FD',106,'12346','30-DEC-96');
SQL> insert into department values('EEE',107,'12347','14-JAN-97');
SQL> insert into department values('MC',108,'12348','18-FEB-98');
SQL> insert into department values('EC',109,'12349','24-MAR-99');
```

3. deptlocation

```
SQL> insert into deptlocation values('101','bangalore');
SQL>insert into deptlocation values('102','mangalore');
SQL>insert into deptlocation values('102','mysore');
SQL>insert into deptlocation values('103','chennai');
SQL>insert into deptlocation values('104','jayanagar');
SQL>insert into deptlocation values('105','delhi');
SQL>insert into deptlocation values('106','kolar');
SQL>insert into deptlocation values('107','tumkur');
SQL>insert into deptlocation values('108','mandya');
SQL>insert into deptlocation values('109','tumkur');
SQL>insert into deptlocation values('109','koramangal');
```

4. Project

```
SQL>insert into project values('research',501,'delhi',101);
SQL>insert into project values('boiling',502,'mumbai',102);
SQL>insert into project values('testing',503,'goa',103);
SQL> insert into project values('mechanic',504,'china',104);
SQL> insert into project values('attender',505,'japan',105);
SQL> insert into project values('tally',506,'magadi',106);
```

```
SQL> insert into project values('msword',507,'arekere',107);
SQL>insert into project values('flash',508,'hulimavu',108);
SQL>insert into project values('graphics',509,'nagar',109);
SQL> insert into project values('photoshop',510,'jpnagar',110);
```

5. WORKSON

```
SQL> insert into workson values('12341',501,'9.30');
SQL> insert into workson values('12342',502,'10.30');
SQL> insert into workson values('12343',503,'11.00');
SQL> insert into workson values('12344',504,'11.30');
SQL> insert into workson values('12345',505,'12.30');
SQL>insert into workson values('12346',506,'1.00');
SQL>insert into workson values('12347',507,'1.45');
SQL>insert into workson values('12348',508,'2.30');
SQL>insert into workson values('12349',509,'5.12');
SQL>insert into workson values('12350',510,'7.25');
SQL> insert into workson values('12348',508,'9.42');
```

6. DEPENDENT

```
SQL> insert into dependent values('12341','dilip','m','01-mar-2000','brother');
SQL> insert into dependent values('12342','rakesh','m','01-apr-1998','father');
SQL> insert into dependent values('12343','ramya','f','23-dec-1992','sister');
SQL> insert into dependent values('12344','vaishu','f','01-feb-1997','mother');
SQL> insert into dependent values('12345','ramesh','m','22-jun-2002','cousin');
SQL> insert into dependent values('12346','teju','f','27-sep-1999','grandma');
SQL> insert into dependent values('12347','velumani','m','22-apr-1996','friend');
SQL> insert into dependent values('12348','praveen','m','15-oct-1998','uncle');
SQL> insert into dependent values('12349','yogesh','m','22-nov-1995','brother');
SQL> insert into dependent values('12350','anjali','f','28-jan-1998','friend');
```

4.Questions to illustrate the use of SELECT statement

SQL>Select * from employee;

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	1
Usman	d	khan	12342	15-SEP-99	Patna	M	19500	12342	2
Rohan	a	rohit	12343	01-JAN-00	Hampi	M	20000	12343	3
Mallik	a	arjun	12344	06-SEP-99	Udupi	M	20500	12344	4
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	5
Srikant	k	s.m	12346	10-DEC-98	hubli	M	21500	12346	6
rajshekhar	s	guna	12347	13-JUN-90	goa	M	22000	12347	7
Venkatesh	g	anku	12348	19-AUG-00	chennai	M	22500	12348	8
harshak	b	reddy	12349	16-JUN-99	hyderabad	M	25000	12349	9
harini	v	shet	12350	11-MAR-98	shivajinagar	f	25500	12350	10

SQL>select * from department;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
CS	101	12341	01-JAN-90
ME	102	12342	20-MAR-91
CE	103	12343	30-JUN-92
AM	104	12344	15-AUG-94
CP	105	12345	26-SEP-95
FD	106	12346	30-DEC-96
EEE	107	12347	14-JAN-97
MC	108	12348	18-FEB-98
EC	109	12349	24-MAR-99
cs	110	12350	12-APR-00

SQL>Select * from deptlocation;

DNUMBER	DLOCATION
101	bangalore
102	mangalore
102	mysore
103	chennai
104	jayanagar
105	delhi
106	kolar
107	tumkur
108	mandya
109	koramangal

SQL>Select * from project;

NAME	PNUMBER	PLOCATION	DNUM
research	501	delhi	101
boiling	502	mumbai	102
testing	503	goa	103
mechanic	504	china	104
attender	505	japan	105
tally	506	magadi	106
msword	507	arekere	107
flash	508	hulimavu	108
graphics	509	nagar	109
photoshop	510	jpnagar	110

SQL>Select * from workson;

ESSN	PNUMBER	HOURS
12341	501	9.3
12342	502	10.3
12343	503	11
12344	504	11.3
12345	505	12.3
12346	506	1
12347	507	1.5
12348	509	5.1
12350	510	7.3
12348	508	9.4

SQL>Select * from dependent;

ESSN	DEPENDENTNAME	SEX	BDATE	RELATIONSHIP
12348	praveen	m	15-OCT-98	uncle
12349	yogesh	m	22-NOV-95	brother
12350	anjali	f	28-JAN-98	friend
12341	dilip	m	01-MAR-00	brother
12342	rakesh	m	01-APR-98	father
12343	ramya	f	23-DEC-92	sister
12344	vaishu	f	01-FEB-97	mother
12345	ramesh	m	22-JUN-02	cousin
12346	teju	f	27-SEP-99	grandma
12347	velumani	m	22-APR-96	friend

5.Questions to illustrate the use of conditional retrieval statement (where clause)

Select fname, bdate from employee where sex='f';

FNAME	BDATE
harini	11-MAR-98

Select * from department where mgrssn=12343;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
CE	103	12343	30-JUN-92

Select * from deptlocation where dlocation='mysore';

DNUMBER	DLOCATION
102	mysore

select pname,plocation from project where pnumber='508';

PNAME	PLOCATION
flash	hulimavu

Select pnumber,hours from works on where essn='12344';

PNUMBER	HOURS
504	11.3

select dependentname,bdate,relationship from dependent where essn='12342' and relationship='father';

EPENDENTNAME	BDATE	RELATIONSHIP
rakesh	01-APR-98	father

6.Questions to illustrate the use of order by clause

select fname,address,bdate,salary from employee order by salary;

FNAME	ADDRESS	BDATE	SALARY
Ajay	Bangalore	01-SEP-97	19000
Usman	Patna	15-SEP-99	19500
Rohan	Hampi	01-JAN-00	20000
Mallik	Udupi	06-SEP-99	20500
shashi	kolar	14-FEB-97	21000
Srikant	hubli	10-DEC-98	21500
rajshekhar	goa	13-JUN-90	22000
Venkatesh	chennai	19-AUG-00	22500
harshak	hyderabad	16-JUN-99	25000
harini	shivajinagar	11-MAR-98	25500

select * from department order by mgrstartdate desc;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
cs	110	12350	12-APR-00
EC	109	12349	24-MAR-99
MC	108	12348	18-FEB-98
EEE	107	12347	14-JAN-97
FD	106	12346	30-DEC-96
CP	105	12345	26-SEP-95
AM	104	12344	15-AUG-94
CE	103	12343	30-JUN-92
ME	102	12342	20-MAR-91
CS	101	12341	01-JAN-90

select * from deptlocation order by dlocation;

DNUMBER	DLOCATION
101	bangalore
103	chennai
105	delhi
104	jayanagar
106	kolar
109	koramangal
108	mandya
102	mangalore
102	mysore
107	tumkur

select * from project order by pname;

NAME	PNUMBER	PLOCATION	DNUM
attender	505	japan	105
boiling	502	mumbai	102
flash	508	hulimavu	108
graphics	509	nagar	109
mechanic	504	china	104
msword	507	arekere	107
photoshop	510	jpnagar	110
research	501	delhi	101
tally	506	magadi	106
testing	503	goa	103

select * from workson order by hours;

ESSN	PNUMBER	HOURS
12346	506	1
12347	507	1.5
12349	509	5.1
12350	510	7.3
12341	501	9.3
12348	508	9.4
12342	502	10.3
12343	503	11
12344	504	11.3
12345	505	12.3

select * from dependent order by dependentname desc;

ESSN	DEPENDENTNAME	SEX	BDATE	RELATIONSHIP
12349	yogesh	m	22-NOV-95	brother
12347	velumani	m	22-APR-96	friend
12344	vaishu	f	01-FEB-97	mother
12346	teju	f	27-SEP-99	grandma
12343	ramya	f	23-DEC-92	sister
12345	ramesh	m	22-JUN-02	cousin
12342	rakesh	m	01-APR-98	father
12348	praveen	m	15-OCT-98	uncle
12341	dilip	m	01-MAR-00	brother
12350	anjali	f	28-JAN-98	friend

7.Questions to illustrate the use of Group by and Having clause

select dno,sum(salary) from employee group by dno;

DNO	SUM(SALARY)
1	19000
6	21500
2	19500
4	20500
5	21000
8	22500
3	20000
7	22000
9	25000
10	25500

select dno,avg(salary) from employee group by dno having dno=2;

NO	AVG(SALARY)
2	19500

select dno,count(*),avg(salary) from employee group by dno;

DNO	COUNT(*)	AVG(SALARY)
1	1	19000
6	1	21500
2	1	19500
4	1	20500
5	1	21000
8	1	22500
3	1	20000
7	1	22000
9	1	25000
10	1	25500

8.Questions to illustrate the use of Aggregate functions(Count,Sum,Max,Min,Avg)

select count(*) from employee;

COUNT(*)
10

select sum(salary) from employee;

SUM(SALARY)
216500

select min(salary) from employee;

MIN(SALARY)
19000

select max(salary) from employee;

MAX(SALARY)
25500

select avg(salary) from employee;

AVG(SALARY)
21650

select count(*),sum(salary),min(salary),max(salary),avg(salary) from employee;

COUNT(*)	SUM(SALARY)	MIN(SALARY)	MAX(SALARY)	AVG(SALARY)
10	216500	19000	25500	21650

9. Queries to illustrate the use of SQL Operators (Relational Operators, Logical, Pattern Matching & Range searching Operators)

LOGICAL OPERATORS (AND, OR, NOT)

select * from department where dname='MC' and dnumber='108';

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
MC	108	12348	18-FEB-98

select * from department where dname='cs' or dnumber=105;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
CP	105	12345	26-SEP-95
cs	110	12350	12-APR-00

select * from department where not dname='EC' ;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
CS	101	12341	01-JAN-90
ME	102	12342	20-MAR-91
CE	103	12343	30-JUN-92
AM	104	12344	15-AUG-94
CP	105	12345	26-SEP-95
FD	106	12346	30-DEC-96
EEE	107	12347	14-JAN-97
MC	108	12348	18-FEB-98
cs	110	12350	12-APR-00

RELATIONAL OPERATORS(>,<,>=,<=,==,!=)

select fname,address, salary from employee where salary >=21000;

FNAME	ADDRESS	SALARY
shashi	kolar	21000
Srikant	hubli	21500
rajshekhar	goa	22000
Venkatesh	chennai	22500
harshak	hyderabad	25000
harini	shivajinagar	25500

select * from employee where dno=5;

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	5

Range Search Operators(IN,ALL, BETWEEN)

select * from employee where salary in(19000,21000,25000);

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	1
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	5
harshak	b	reddy	12349	16-JUN-99	hyderabad	M	25000	12349	9

select * from employee where not salary in(21000);

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	1
Usman	d	khan	12342	15-SEP-99	Patna	M	19500	12342	2
Rohan	a	rohit	12343	01-JAN-00	Hampi	M	20000	12343	3
Mallik	a	arjun	12344	06-SEP-99	Udupi	M	20500	12344	4
Srikant	k	s.m	12346	10-DEC-98	hubli	M	21500	12346	6
rajshekhar	s	guna	12347	13-JUN-90	goa	M	22000	12347	7
Venkatesh	g	anku	12348	19-AUG-00	chennai	M	22500	12348	8
harshak	b	reddy	12349	16-JUN-99	hyderabad	M	25000	12349	9
harini	v	shet	12350	11-MAR-98	shivajinagar	f	25500	12350	10

select fname,salary,address from employee where salary between 20000 and 24000;

FNAME	SALARY	ADDRESS
Rohan	20000	Hampi
Mallik	20500	Udupi
shashi	21000	kolar
Srikant	21500	hubli
rajshekhar	22000	goa
Venkatesh	22500	chennai

select fname,lname, salary,address,dno from employee where salary >all(select salary from employee where dno=3);

FNAME	LNAME	SALARY	ADDRESS	DNO
Mallik	arjun	20500	Udupi	4
shashi	shinde	21000	kolar	5
Srikant	s.m	21500	hubli	6
rajshekhar	guna	22000	goa	7
Venkatesh	anku	22500	chennai	8
harshak	reddy	25000	hyderabad	9
harini	shet	25500	shivajinagar	10

PATTERN MATCHING OPERATORS (like)

select fname from employee where fname like 's%';

FNAME

shashi

10. Queries to perform join operation on multiple tables

**select employee.fname,bdate,ssn,salary,department.dname,mgrssn from employee
join department on ssn=mgrssn;**

FNAME	BDATE	SSN	SALARY	DNAME	MGRSSN
Ajay	01-SEP-97	12341	19000	CS	12341
Usman	15-SEP-99	12342	19500	ME	12342
Rohan	01-JAN-00	12343	20000	CE	12343
Mallik	06-SEP-99	12344	20500	AM	12344
shashi	14-FEB-97	12345	21000	CP	12345
Srikant	10-DEC-98	12346	21500	FD	12346
rajshekhar	13-JUN-90	12347	22000	EEE	12347
Venkatesh	19-AUG-00	12348	22500	MC	12348
harshak	16-JUN-99	12349	25000	EC	12349
harini	11-MAR-98	12350	25500	cs	12350

**Select fname,dno,dname,dnumber from employee1,department where
employee1.dno=department.dnumber;**

FNAME	DNO	DNAME	DNUMBER
Ajay	101	CS	101
Usman	102	ME	102
Rohan	103	CE	103
Mallik	104	AM	104
shashi	105	CP	105

11. Nested and complex queries on multiple tables

select * from project1;

PNAME	PNUMBER	PLOCATION	DNUM
research	501	delhi	501
boiling	502	mumbai	502
testing	503	goa	503
mechanic	504	chennai	504
debug	505	bangalore	505

select pname,plocation,pnumber from project1 where pnumber=(select dnum from project1 where pname='testing');

PNAME	PLOCATION	PNUMBER
testing	goa	503

select *from employee1;

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	101
Usman	d	khan	12342	15-SEP-99	Patna	M	19500	12342	102
Rohan	a	rohit	12343	01-JAN-00	Hampi	M	20000	12343	103
Mallik	a	arjun	12344	06-SEP-99	Udupi	M	20500	12344	104
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	105

Select *from department;

DNAME	DNUMBER	MGRSSN	MGRSTARTDATE
CS	101	12341	01-JAN-90
ME	102	12342	20-MAR-91
CE	103	12343	30-JUN-92
AM	104	12344	15-AUG-94
CP	105	12345	26-SEP-95
FD	106	12346	30-DEC-96
EEE	107	12347	14-JAN-97
MC	108	12348	18-FEB-98
EC	109	12349	24-MAR-99
cs	110	12350	12-APR-00

Select *from employee1 where dno=(select dnumber from department where dnumber=102);

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Usman	d	khan	12342	15-SEP-99	Patna	M	19500	12342	102

12. Perform update, alter, delete, drop operations on table.

Select * from employee;

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	1
Usman	d	khan	12342	15-SEP-99	Patna	M	19500	12342	2
Rohan	a	rohit	12343	01-JAN-00	Hampi	M	20000	12343	3
Mallik	a	arjun	12344	06-SEP-99	Udupi	M	20500	12344	4
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	5
Srikant	k	s.m	12346	10-DEC-98	hubli	M	21500	12346	6
rajshekhar	s	guna	12347	13-JUN-90	goa	M	22000	12347	7
Venkatesh	g	anku	12348	19-AUG-00	chennai	M	22500	12348	8
harshak	b	reddy	12349	16-JUN-99	hyderabad	M	25000	12349	9
harini	v	shet	12350	11-MAR-98	shivajinagar	f	25500	12350	10

UPDATE:

update employee set salary=20000 where dno=2;

select * from employee;

FNAME	MINIT	LNAME	SSN	BDATE	ADDRESS	SEX	SALARY	SUPERSSN	DNO
Ajay	d	kiran	12341	01-SEP-97	Bangalore	M	19000	12341	1
Usman	d	khan	12342	15-SEP-99	Patna	M	20000	12342	2
Rohan	a	rohit	12343	01-JAN-00	Hampi	M	20000	12343	3
Mallik	a	arjun	12344	06-SEP-99	Udupi	M	20500	12344	4
shashi	P	shinde	12345	14-FEB-97	kolar	M	21000	12345	5
Srikant	k	s.m	12346	10-DEC-98	hubli	M	21500	12346	6
rajshekhar	s	guna	12347	13-JUN-90	goa	M	22000	12347	7
Venkatesh	g	anku	12348	19-AUG-00	chennai	M	22500	12348	8
harshak	b	reddy	12349	16-JUN-99	hyderabad	M	25000	12349	9
harini	v	shet	12350	11-MAR-98	shivajinagar	f	25500	12350	10

ALTER:

alter table employee add eid number(10);

Table altered.

Desc employee;

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	FNAME	Varchar2	9	-	-	-	-	-	-
	MINIT	Char	1	-	-	-	✓	-	-
	LNAME	Varchar2	9	-	-	-	-	-	-
	SSN	Char	6	-	-	1	-	-	-
	BDATE	Date	7	-	-	-	✓	-	-
	ADDRES S	Varchar2	20	-	-	-	✓	-	-
	SEX	Char	1	-	-	-	✓	-	-
	SALARY	Number	-	-	0	-	✓	-	-
	SUPERSS N	Char	6	-	-	-	-	-	-
	DNO	Number	-	-	0	-	-	-	-
	EID	Number	-	10	0	-	✓	-	-

1 - 11

alter table department modify dname varchar(20);
Table altered.

desc department;

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMEN T	DNAME	Varchar2	20	-	-	-	-	-	-
	DNUMBER	Number	-	-	0	1	-	-	-
	MGRSSN	Char	6	-	-	-	-	-	-
	MGRSTARTD ATE	Date	7	-	-	-	✓	-	-

1 - 4

alter table employee drop column eid;
Table dropped.

desc employee;

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	FNAME	Varchar2	9	-	-	-	-	-	-
	MINIT	Char	1	-	-	-	✓	-	-
	LNAME	Varchar2	9	-	-	-	-	-	-
	SSN	Char	6	-	-	1	-	-	-
	BDATE	Date	7	-	-	-	✓	-	-
	ADDRESS	Varchar2	20	-	-	-	✓	-	-
	SEX	Char	1	-	-	-	✓	-	-
	SALARY	Number	-	-	0	-	✓	-	-
	SUPERSSN	Char	6	-	-	-	-	-	-
	DNO	Number	-	-	0	-	-	-	-

1 - 10

DELETE: select * from dependent;

ESSN	DEPENDENTNAME	SEX	BDATE	RELATIONSHIP
12348	praveen	m	15-OCT-98	uncle
12349	yogesh	m	22-NOV-95	brother
12350	anjali	f	28-JAN-98	friend
12341	dilip	m	01-MAR-00	brother
12342	rakesh	m	01-APR-98	father
12343	ramya	f	23-DEC-92	sister
12344	vaishu	f	01-FEB-97	mother
12345	ramesh	m	22-JUN-02	cousin
12346	teju	f	27-SEP-99	grandma
12347	velumani	m	22-APR-96	friend

delete from dependent where essn=12348;

1 row(s) deleted.

Select * from dependent;

ESSN	DEPENDENTNAME	SEX	BDATE	RELATIONSHIP
12349	yogesh	m	22-NOV-95	brother
12350	anjali	f	28-JAN-98	friend
12341	dilip	m	01-MAR-00	brother
12342	rakesh	m	01-APR-98	father
12343	ramya	f	23-DEC-92	sister
12344	vaishu	f	01-FEB-97	mother
12345	ramesh	m	22-JUN-02	cousin
12346	teju	f	27-SEP-99	grandma
12347	velumani	m	22-APR-96	friend

delete from dependent;**4 row(s) deleted.****Select * from dependent;****No data found.****DROP: Drop table employee;****Table dropped.**

13. Queries to illustrate the use of create view command and manipulating

```
SQL>create table emp
(ename varchar(10) not null,
eid number(10) primary key,
eage number(2) check(eage>18),
esalary number(6) default '10000');
Table created.
```

```
SQL>insert into emp
values('aruna',101,19,default);
```

SQL>select * from emp;

ENAME	EID	EAGE	ESALARY
aruna	101	19	10000
harini	102	20	12000
jagadish	103	21	15000
kavitha	104	22	10000

SQL> create view employee as select ename,eid,esalary from emp;
View created.

SQL> select * from employee;

ENAME	EID	ESALARY
aruna	101	10000
harini	102	12000
jagadish	103	15000
kavitha	104	10000

UPDATE OPERATION ON VIEWS

SQL> update employee set ename='praveen' where eid=104;
1 row updated.

SQL> insert into employee
Values('raju',105,11000);
I row created.

Select * from employee;

ENAME	EID	ESALARY
aruna	101	10000
harini	102	12000
jagadish	103	15000
praveen	104	10000
raju	105	11000

Deleting data from the views

**SQL> delete from employee ;
5 rows deleted.**

**SQL >select * from employee;
No data found.**

14. Queries to illustrate the use of commit & Rollback

```
create table emp
(ename varchar(10) not null,
eid number(10) primary key,
eage number(2) check(eage>18),
esalary number(6) default '10000');
Table created.
```

```
SQL>insert into emp
values('aruna',101,19,default);
SQL>insert into emp
values('harini',102,20,12000);
SQL>insert into emp
values('kavitha',104,22,default);
```

SQL>select * from emp;

ENAME	EID	EAGE	ESALARY
Aruna	101	19	10000
Harini	102	20	12000
Jagadish	103	21	15000
Kavitha	104	22	10000

```
SQL> commit;
SQL> delete from emp;
        4 rows deleted
SQL> select * from emp;
      No data found
SQL> rollback
      Rollback complete
SQL> select * from emp;
```

ENAME	EID	EAGE	ESALARY
Aruna	101	19	10000
Harini	102	20	12000
Jagadish	103	21	15000
Kavitha	104	22	10000

15. Queries to illustrate the use of savepoint command

```
SQL> create table emp  
2 (ename varchar(10) not null,  
3 eid number(5) primary key,  
4 eage number(2) check(eage>18),  
5 esalary number(6) default '10000');
```

Table created.

```
SQL> insert into emp  
2 values('aruna',102,19,12000);  
1 row created.
```

```
SQL> insert into emp  
2 values('harini',103,20,default);  
1 row created.
```

```
SQL> select * from emp;  
ENAME    EID     EAGE    ESALARY  
-----  
aruna    102     19      12000  
harini   103     20      10000
```

```
SQL> commit;  
Commit complete.
```

```
SQL> savepoint s1;  
Savepoint created.
```

```
SQL> insert into emp  
2 values('raj',104,21,14000);  
1 row created.
```

```
SQL> select * from emp;  
ENAME    EID     EAGE    ESALARY  
-----  
aruna    102     19      12000  
harini   103     20      10000  
raj      104     21      14000
```

SQL> savepoint s2;
Savepoint created.

SQL> roll back s1;
Rollback complete.

SQL> select * from emp;

ENAME	EID	EAGE	ESALARY
aruna	102	19	12000
harini	103	20	10000

PART – B

GUI PROGRAMS

EXERCISE-2

Design a form to find the greatest of two numbers using text box and label box

Dim a As Integer

Dim b As Integer

```
Private Sub CLEAR_Click()
```

```
Text1.Text = " "
```

```
Text2.Text = " "
```

```
End Sub
```

```
Private Sub COMPARE_Click()
```

```
If a > b Then
```

```
Text2.Text = "The greatest number is " & a
```

```
Else
```

```
Text2.Text = " Greatest number is " & b
```

```
End If
```

```
End Sub
```

```
Private Sub DISPLAY_Click()
```

```
Text1.Text = "The given numbers are" & a & " AND " & b
```

```
End Sub
```

```
Private Sub EXIT_Click()
```

```
End
```

```
End Sub
```

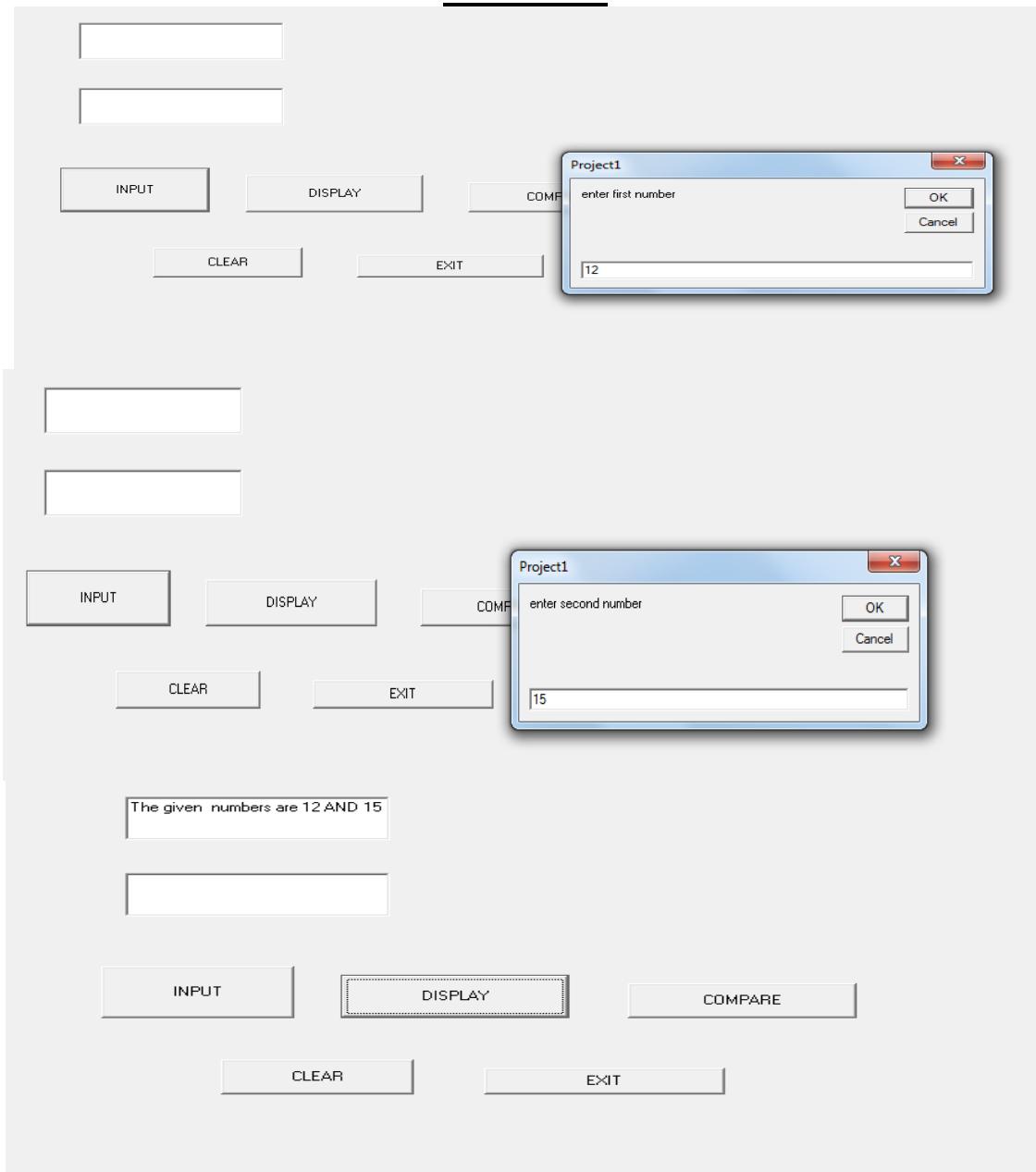
```
Private Sub INPUT_Click()
```

```
a = InputBox("enter first number")
```

```
b = InputBox("enter second number")
```

```
End Sub
```

OUTPUT



The given numbers are 12 AND 15		
Greatest number is 15		
<input type="button" value="INPUT"/>	<input type="button" value="DISPLAY"/>	<input type="button" value="COMPARE"/>
<input type="button" value="CLEAR"/>	<input type="button" value="EXIT"/>	
<input type="text"/>		
<input type="text"/>		
<input type="button" value="INPUT"/>	<input type="button" value="DISPLAY"/>	<input type="button" value="COMPARE"/>
<input type="button" value="CLEAR"/>	<input type="button" value="EXIT"/>	

EXERCISE-3

Generate a report for student's results or employee details or shopping list or any other example

```
Private Sub Command1_Click()
Text3.Text = Val(Text1.Text) * Val(Text2.Text)
Text6.Text = Val(Text4.Text) * Val(Text5.Text)
Text9.Text = Val(Text7.Text) * Val(Text8.Text)
Text12.Text = Val(Text10.Text) * Val(Text11.Text)
Text15.Text = Val(Text13.Text) * Val(Text14.Text)
Text16.Text = Val(Text3.Text) + Val(Text6.Text) + Val(Text9.Text) + Val(Text12.Text)
+ Val(Text15.Text)
End Sub
```

```
Private Sub Command2_Click()
End
End Sub
```

OUTPUT

SHOPPING LIST			
PRODUCT NAME	COST	QUANTITY	PRICE
PEN	<input type="text" value="5"/>	<input type="text" value="1"/>	<input type="text" value="5"/>
PENCIL	<input type="text" value="10"/>	<input type="text" value="2"/>	<input type="text" value="20"/>
SCALE	<input type="text" value="20"/>	<input type="text" value="5"/>	<input type="text" value="100"/>
ERASER	<input type="text" value="55"/>	<input type="text" value="3"/>	<input type="text" value="165"/>
COMPOSE	<input type="text" value="101"/>	<input type="text" value="7"/>	<input type="text" value="707"/>
TOTAL		997	END

EXERCISE-4

Design a form to make use of Horizontal and Vertical scroll bar

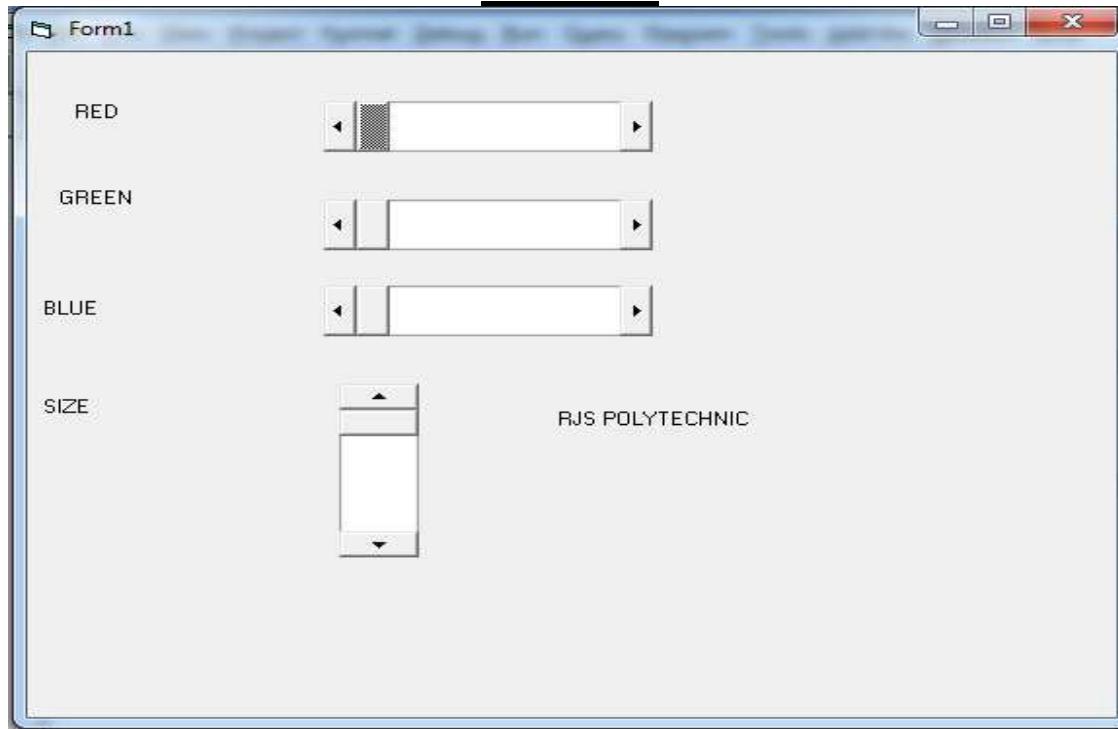
```
Private Sub HSB_Change()  
Form1.BackColor = RGB(HSR.Value, HSG.Value, HSB.Value)  
End Sub
```

```
Private Sub HSG_Change()  
Form1.BackColor = RGB(HSR.Value, HSG.Value, HSB.Value)  
End Sub
```

```
Private Sub HSR_Change()  
Form1.BackColor = RGB(HSR.Value, HSG.Value, HSB.Value)  
End Sub
```

```
Private Sub VSB_Change()  
Label4.Caption = "SIZE"  
Label5.FontSize = 19 'VSB.value'  
End Sub
```

OUTPUT



EXERCISE-5

Design a student registration form to use various tools like label, text, command, option box.

```
Private Sub Submit_Click()
Msgbox "form submitted"
End
```

OUTPUT

REGISTRATION FORM

NAME	<input type="text"/>							
FATHER NAME	<input type="text"/>	MOTHER NAME	<input type="text"/>					
DATE OF BIRTH	<input type="text" value="Combo1"/>	GENDER	<input type="radio"/> MALE <input type="radio"/> FEMALE					
ADDRESS	<input type="text"/>							
PHONE NO	<input type="text"/>	EMAIL ID	<input type="text"/>					
COURSE NAME	<input type="text"/>							
PUC	<input type="checkbox"/>	B.COM	<input type="checkbox"/>	B.B.M	<input type="checkbox"/>	DIPLOMA	<input type="checkbox"/>	
PUC	<input type="radio"/>	SCIENCE	<input type="radio"/>	COMMERCE	<input type="radio"/>	ARTS	<input type="radio"/>	<input type="button" value="SUBMIT"/>
DIPLOMA	<input type="radio"/>	COMPUTER SCIENCE		<input type="radio"/>	ELECTRICAL	<input type="radio"/>	CP	
	<input type="radio"/>	ECE		<input type="radio"/>	CIVIL	<input type="radio"/>	FASHION DESIGN	<input type="button" value="RESET"/>
CERTIFICATE								
	<input type="checkbox"/>	TC	<input type="checkbox"/>	STUDY CERTIFICATE		<input type="checkbox"/>	MEDICAL CERTIFICATE	

EXERCISE-6

Design a menu driven form to process student result or a shopping list or any other example

```
Private Sub details_Click()
form2.Show
End Sub
Private Sub EXIT_Click()
End
End Sub
Private Sub result_Click()
form3.Show
End Sub
```

