Name: Priti Yadav

Roll no. 106

Class: FYIT

Practical 1:

Aim: Study of Data Definition Language Statement

A) Write the query for thefollowing

1) Create the following tables and include the necessary constraints

NOTNULL,
DEFAULT,
CHECK,
PRIMARY
KEY,UNIQUE.

a) Student(sid,sname,gender,dob,remark,marks,class,email)

#OUTPUT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT	SID	Number	-	-	0	1	-	-	-
	SNAME	Varchar2	10	-	-	-	-	-	-
	GENDER	Varchar2	10	-	-	-	-	-	-
	DOB	Number	-	-	0	-	-	-	-
	REMARK	Varchar2	10	-	-	-	✓	-	-
	MARKS	Number	-	-	0	-	✓	-	-
	CLASS	Varchar2	5	-	-	-	✓	'bsics'	-
	EMAIL	Varchar2	10	-	-	-	✓	-	-
									1 - 8

b) Course (cid, cname,credits)

#OUTPUT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COURSE	CID	Number	-	-	0	1	-	-	-
	CNAME	Varchar2	10	-	-	-	-	-	-
	CREDITS	Number	-	-	0	-	-	-	-
									1 - 3

2) Alter the structure of the Coursetable

a) Modify datatype ofcname.
b) Add a column coursehours with minimum course hours greater than45.
c) Add a columncdesc

#Command :

```
alter table Course
modify cname varchar(20);
alter table Course
add coursehours int check(coursehours>45);
alter table Course
add cdesc varchar(10);

describe Course;
```

#OUTPUT

```
create table Course(cid int primary key , cname varchar(10) not null , credits int not null);
alter table Course
modify cname varchar(20);
alter table Course
add coursehours int check(coursehours>45);
alter table Course
add cdesc varchar(10);
describe Course;
```

Results Explain Describe Saved SQL History

Object Type TABLE Object COURSE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COURSE	CID	Number	-	-	0	1	-	-	-
	CNAME	Varchar2	20	-	-	-	-	-	-
	CREDITS	Number	-	-	0	-	-	-	-
	COURSEHOURS	Number	-	-	0	-	✓	-	-
	CDESC	Varchar2	10	-	-	-	✓	-	-

1 - 5

3) Alter the structure of StudentTable

a) Add column age with minimum age as17.
b) Delete the columndob
c) Add a column phoneno
d) Rename phoneno to contactno

#Command :

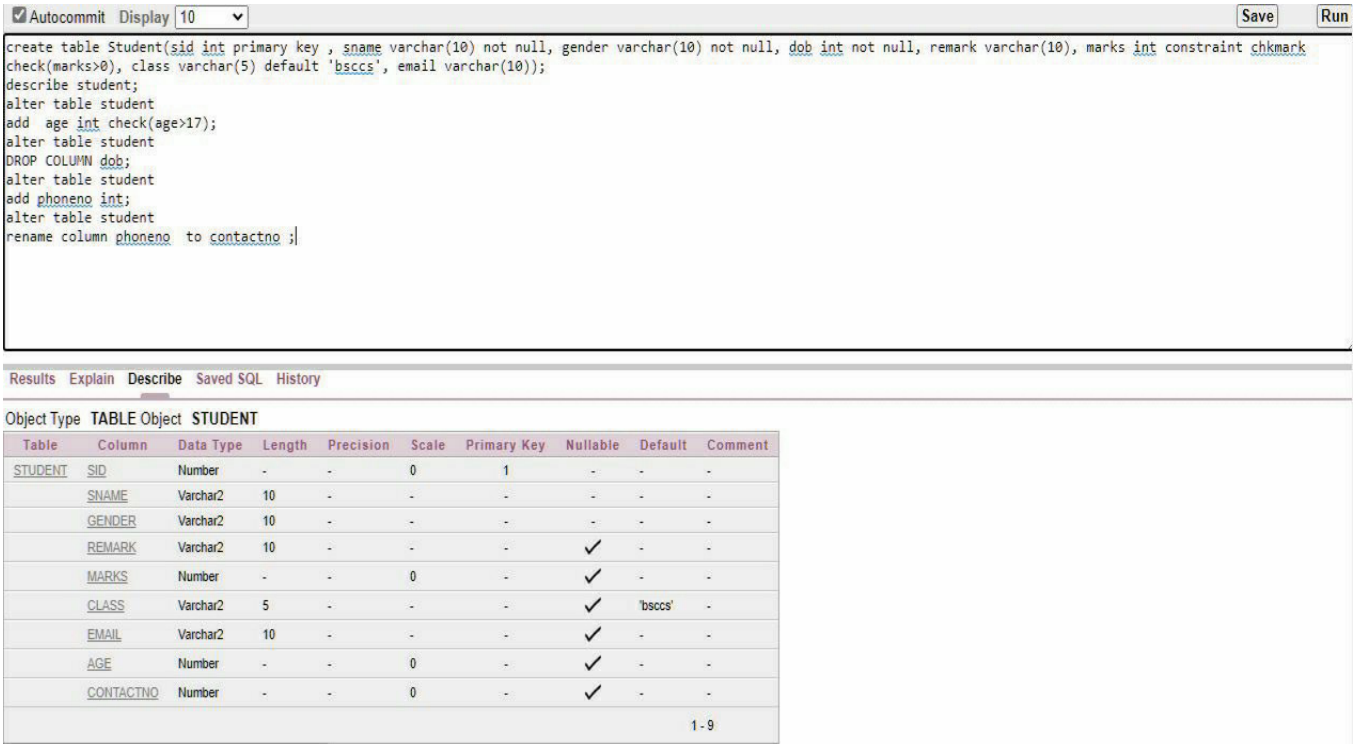
```
alter table student
add age int check(age>17);

alter table student
DROP COLUMN dob;

alter table
student add
phoneno int;

alter table student
rename column phoneno to contactno ;
```

#OUTPUT



Autocommit Display 10 Save Run

```
create table Student(sid int primary key , sname varchar(10) not null, gender varchar(10) not null, dob int not null, remark varchar(10), marks int constraint chkmark
check(marks>0), class varchar(5) default 'bsccs', email varchar(10));
describe student;
alter table student
add  age int check(age>17);
alter table student
DROP COLUMN dob;
alter table student
add phoneno int;
alter table student
rename column phoneno  to contactno ;
```

Results Explain Describe Saved SQL History

Object Type TABLE Object STUDENT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT	SID	Number	-	-	0	1	-	-	-
	SNAME	Varchar2	10	-	-	-	-	-	-
	GENDER	Varchar2	10	-	-	-	-	-	-
	REMARK	Varchar2	10	-	-	-	✓	-	-
	MARKS	Number	-	-	0	-	✓	-	-
	CLASS	Varchar2	5	-	-	-	✓	'bsccs'	-
	EMAIL	Varchar2	10	-	-	-	✓	-	-
	AGE	Number	-	-	0	-	✓	-	-
	CONTACTNO	Number	-	-	0	-	✓	-	-

1 - 9

4) Rename Student table asStudent_details.

#Command :

```
alter table student
rename to Student_details;

describe Student_details;
```

#OUTPUT

Object Type TABLE Object STUDENT_DETAILS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT_DETAILS	SID	Number	-	-	0	1	-	-	-
	SNAME	Varchar2	10	-	-	-	-	-	-
	GENDER	Varchar2	10	-	-	-	-	-	-
	REMARK	Varchar2	10	-	-	-	✓	-	-
	MARKS	Number	-	-	0	-	✓	-	-
	CLASS	Varchar2	5	-	-	-	✓	'bsccs'	-
	EMAIL	Varchar2	10	-	-	-	✓	-	-
	AGE	Number	-	-	0	-	✓	-	-
	CONTACTNO	Number	-	-	0	-	✓	-	-

1 - 9

5) Describe the structure of both thetables

a) Student_detailstable

#OUTPUT

Object Type TABLE Object STUDENT_DETAILS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
STUDENT_DETAILS	SID	Number	-	-	0	1	-	-	-
	SNAME	Varchar2	10	-	-	-	-	-	-
	GENDER	Varchar2	10	-	-	-	-	-	-
	REMARK	Varchar2	10	-	-	-	✓	-	-
	MARKS	Number	-	-	0	-	✓	-	-
	CLASS	Varchar2	5	-	-	-	✓	'bsccs'	-
	EMAIL	Varchar2	10	-	-	-	✓	-	-
	AGE	Number	-	-	0	-	✓	-	-
	CONTACTNO	Number	-	-	0	-	✓	-	-

1 - 9

b) Coursetable

#OUTPUT

Object Type TABLE Object COURSE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
COURSE	CID	Number	-	-	0	1	-	-	-
	CNAME	Varchar2	20	-	-	-	-	-	-
	CREDITS	Number	-	-	0	-	-	-	-
	COURSEHOURS	Number	-	-	0	-	✓	-	-
	CDESC	Varchar2	10	-	-	-	✓	-	-

1 - 5

6) Drop the table student_details andCourse

Command:

```
drop table Student_details;
drop table Course;
```

OUTPUT :

```
Table dropped.
```

B) 1.Createatable EMPLOYEE with following attributes and specific data types and constraints required

(Emp_no, E_name, E_address, E_ph_no, Dept_no, Dept_name,Job_id , Salary)

#OUTPUT

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMP_NO	Number	-	-	0	-	-	-	-
	E_NAME	Varchar2	15	-	-	-	-	-	-
	E_ADDRESS	Varchar2	20	-	-	-	-	-	-
	E_PH_NO	Number	-	-	0	-	-	-	-
	DEPT_NO	Number	-	-	0	-	-	-	-
	DEPT_NAME	Varchar2	15	-	-	-	✓	-	-
	JOB_ID	Number	-	-	0	1	-	-	-
	SALARY	Number	-	-	0	-	-	-	-

1 - 8

2. Add a new column HIREDATE to the existingrelation

#Command:

```
alter table EMPLOYEE add
HIREDATE int;
```

#OUTPUT

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMP_NO	Number	-	-	0	-	-	-	-
	E_NAME	Varchar2	15	-	-	-	-	-	-
	E_ADDRESS	Varchar2	20	-	-	-	-	-	-
	E_PH_NO	Number	-	-	0	-	-	-	-
	DEPT_NO	Number	-	-	0	-	-	-	-
	DEPT_NAME	Varchar2	15	-	-	-	✓	-	-
	JOB_ID	Number	-	-	0	1	-	-	-
	SALARY	Number	-	-	0	-	-	-	-
	HIREDATE	Number	-	-	0	-	✓	-	-

1 - 9

3. Change the datatype of JOB_ID from char tovarchar2.

#Command :

```
alter table EMPLOYEE
modify Job_id varchar2(20);
```

OUTPUT :

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	EMP_NO	Number	-	-	0	-	-	-	-
	E_NAME	Varchar2	15	-	-	-	-	-	-
	E_ADDRESS	Varchar2	20	-	-	-	-	-	-
	E_PH_NO	Number	-	-	0	-	-	-	-
	DEPT_NO	Number	-	-	0	-	-	-	-
	DEPT_NAME	Varchar2	15	-	-	-	✓	-	-
	JOB_ID	Varchar2	20	-	-	1	-	-	-
	SALARY	Number	-	-	0	-	-	-	-
	HIREDATE	Number	-	-	0	-	✓	-	-

1 - 9

4. Change the name of column/field Emp_no toE_no.

#Command :

```
alter table EMPLOYEE
rename column Emp_no to E_no ;
```

#OUTPUT :

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	E_NO	Number	-	-	0	-	-	-	-
	E_NAME	Varchar2	15	-	-	-	-	-	-
	E_ADDRESS	Varchar2	20	-	-	-	-	-	-
	E_PH_NO	Number	-	-	0	-	-	-	-
	DEPT_NO	Number	-	-	0	-	-	-	-
	DEPT_NAME	Varchar2	15	-	-	-	✓	-	-
	JOB_ID	Varchar2	20	-	-	1	-	-	-
	SALARY	Number	-	-	0	-	-	-	-
	HIREDATE	Number	-	-	0	-	✓	-	-

1 - 9

5. Modify the column width of the job field of emptable.

#Command :

```
alter table EMPLOYEE
modify Job_id varchar2(40);
```

#OUTPUT :

Object Type TABLE Object EMPLOYEE

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMPLOYEE	E_NO	Number	-	-	0	-	-	-	-
	E_NAME	Varchar2	15	-	-	-	-	-	-
	E_ADDRESS	Varchar2	20	-	-	-	-	-	-
	E_PH_NO	Number	-	-	0	-	-	-	-
	DEPT_NO	Number	-	-	0	-	-	-	-
	DEPT_NAME	Varchar2	15	-	-	-	✓	-	-
	JOB_ID	Varchar2	40	-	-	1	-	-	-
	SALARY	Number	-	-	0	-	-	-	-
	HIREDATE	Number	-	-	0	-	✓	-	-

1 - 9

C) Create the following tables with specified attributes andconstraints

Department Table :

Department_Id varchar2(20) primarykey, Department_Name varchar2(25),deptno int not null ,loc varchar(10)

#OUTPUT :

Object Type TABLE Object DEPARTMENT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPARTMENT	DEPARTMENT_ID	Varchar2	20	-	-	1	-	-	-
	DEPARTMENT_NAME	Varchar2	25	-	-	-	✓	-	-
	DEPTNO	Number	-	-	0	-	-	-	-
	LOC	Varchar2	10	-	-	-	✓	-	-

1 - 4

Instructor tabel: Create table Instructor(Instructor_id varchar2(20) primary key, Department_Id varchar2(20) REFERENCES Department(Department_Id),Last_Name varchar2(25), First_Name varchar2(200) not null,Telephone varchar2(20) unique,gender char(1)check(gender in ('Male', 'Female')),city varchar(10) default ''MUMBAI');

#OUTPUT :

Object Type TABLE Object INSTRUCTOR

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
INSTRUCTOR	INSTRUCTOR_ID	Varchar2	20	-	-	1	-	-	-
	DEPARTMENT_ID	Varchar2	20	-	-	-	✓	-	-
	LAST_NAME	Varchar2	25	-	-	-	✓	-	-
	FIRST_NAME	Varchar2	200	-	-	-	-	-	-
	TELEPHONE	Varchar2	20	-	-	-	✓	-	-
	GENDER	Char	1	-	-	-	✓	-	-
	CITY	Varchar2	10	-	-	-	✓	'MUMBAI'	-

1 - 7

D) Create th following described below

Table Name: EMP:

#Command :

create table EMP(EMPNO Int primary key ,ENAME varchar(10) not null,JOB varchar(9) ,MGR int ,HIREDATE date ,SAL number(7,2) ,COMM int , deptno int references DEPT(deptno));

OUTPUT :

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMP	EMPNO	Number	-	-	0	1	-	-	-
	ENAME	Varchar2	10	-	-	-	-	-	-
	JOB	Varchar2	9	-	-	-	✓	-	-
	MGR	Number	-	-	0	-	✓	-	-
	HIREDATE	Date	7	-	-	-	✓	-	-
	SAL	Number	-	7	2	-	✓	-	-
	COMM	Number	-	-	0	-	✓	-	-
	DEPTNO	Number	-	-	0	-	✓	-	-

1 - 8

Table Name: DEPT :

Command :

create table DEPT(deptno int primary key, dname varchar(14) ,loc varchar(13)); OUTPUT :

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
DEPT	DEPTNO	Number	-	-	0	1	-	-	-
	DNAME	Varchar2	14	-	-	-	✓	-	-
	LOC	Varchar2	13	-	-	-	✓	-	-

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