

Name : Devangi Parmar
Roll No: 133

DBMS1 Practical

Practical 1: Study of Data Definition Language Statement

A) Write the query for the following

1) Create the following tables and include the necessary constraints NOT NULL, DEFAULT, CHECK, PRIMARY KEY, UNIQUE.

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

```
Run SQL Command Line

SQL> create table student(sid int not null primary key, sname varchar(20),gender varchar(10),dob date,remark varchar(10),mark int,class
varchar(30) default'FY BSCIT',emailid varchar(35) not null unique,check(gender in('male','female')));

Table created.

SQL> desc student
Name                               Null?    Type
-----
SID                                NOT NULL NUMBER(38)
SNAME                             VARCHA2(20)
GENDER                            VARCHA2(10)
DOB                                DATE
REMARK                            VARCHA2(10)
MARK                               NUMBER(38)
CLASS                             VARCHA2(30)
EMAILID                            NOT NULL VARCHA2(35)

SQL>
```

b) Course (cid, cname, credits)

```
Select Run SQL Command Line

SQL> create table course(cid int not null primary key,cname varchar(20),credits int);

Table created.

SQL> desc course
Name                               Null?    Type
-----
CID                                NOT NULL NUMBER(38)
CNAME                             VARCHA2(20)
CREDITS                            NUMBER(38)

SQL> █
```

2) Alter the structure of the Course table

a) Modify datatype of cname.

```
SQL> alter table course
2 modify cname varchar(30);

Table altered.

SQL> desc course
Name                               Null?    Type
-----
CID                                NOT NULL NUMBER(38)
CNAME                             VARCHA2(30)
CREDITS                            NUMBER(38)

SQL> █
```

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b) Add a column coursehours with minimum course hours greater than 45

```
SQL> alter table course
2 add coursehour int check(coursehour>=45);
```

Table altered.

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME		VARCHAR2(30)
CREDITS		NUMBER(38)
COURSEHOUR		NUMBER(38)

```
SQL>
```

c) Add a column cdesc

```
SQL> alter table course
2 add cdesc varchar(20);
```

Table altered.

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME		VARCHAR2(30)
CREDITS		NUMBER(38)
COURSEHOUR		NUMBER(38)
CDESC		VARCHAR2(20)

```
SQL>
```

3) Alter the structure of Student Table

a) Add column age with minimum age as 17.

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

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
DOB		DATE
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)

```
SQL>
```

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b) Delete the column dob

```
SQL> alter table student
2 drop column dob;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)

```
SQL>
```

c) Add a column phoneno

```
SQL> alter table student
2 add phoneno int;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)
PHONENO		NUMBER(38)

```
SQL>
```

d) Rename phoneno to contactno

```
SQL> alter table student
2 rename column phoneno to contactno;
```

Table altered.

```
SQL> desc student
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)
CONTACTNO		NUMBER(38)

```
SQL>
```

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4) Rename Student table as Student_details.

```
SQL> alter table student
2 rename to student_details;
```

Table altered.

```
SQL> desc student_details
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)
CONTACTNO		NUMBER(38)

```
SQL>
```

5) Describe the structure of both the tables.

```
SQL> desc student_details
```

Name	Null?	Type
SID	NOT NULL	NUMBER(38)
SNAME		VARCHAR2(20)
GENDER		VARCHAR2(10)
REMARK		VARCHAR2(10)
MARK		NUMBER(38)
CLASS		VARCHAR2(30)
EMAILID	NOT NULL	VARCHAR2(35)
AGE		NUMBER(38)
CONTACTNO		NUMBER(38)

```
SQL>
```

```
SQL> desc course
```

Name	Null?	Type
CID	NOT NULL	NUMBER(38)
CNAME		VARCHAR2(30)
CREDITS		NUMBER(38)
COURSEHOUR		NUMBER(38)
CDESC		VARCHAR2(20)

```
SQL>
```

6) Drop the table student_details and Course.

```
SQL> drop table student_details;
```

Table dropped.

```
SQL> drop table course;
```

Table dropped.

```
SQL>
```

B) 1. Create a table 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)

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```
Run SQL Command Line

SQL> create table EMPLOYEE(Emp_no int primary key,E_name varchar(10),E_address varchar(20),E_ph_no int not null,Dept_name varchar(20),Job_id char unique,salary varchar(25));

Table created.

SQL> desc EMPLOYEE
+-----+-----+-----+
Name                               Null?   Type
+-----+-----+-----+
EMP_NO                             NOT NULL NUMBER(38)
E_NAME                             VARCHAR2(10)
E_ADDRESS                           VARCHAR2(20)
E_PH_NO                             NOT NULL NUMBER(38)
DEPT_NAME                           VARCHAR2(20)
JOB_ID                              CHAR(1)
SALARY                              VARCHAR2(25)

SQL>
```

2. Add a new column HIREDATE to the existing relation.

```
SQL> alter table EMPLOYEE
2 add HIREDATE date;

Table altered.

SQL> desc EMPLOYEE
+-----+-----+-----+
Name                               Null?   Type
+-----+-----+-----+
EMP_NO                             NOT NULL NUMBER(38)
E_NAME                             VARCHAR2(10)
E_ADDRESS                           VARCHAR2(20)
E_PH_NO                             NOT NULL NUMBER(38)
DEPT_NAME                           VARCHAR2(20)
JOB_ID                              VARCHAR2(20)
SALARY                              VARCHAR2(25)
HIREDATE                            DATE

SQL>
```

3. Change the datatype of JOB_ID from char to varchar2.

```
SQL> alter table EMPLOYEE
2 modify Job_id varchar(20);

Table altered.

SQL> desc EMPLOYEE
+-----+-----+-----+
Name                               Null?   Type
+-----+-----+-----+
EMP_NO                             NOT NULL NUMBER(38)
E_NAME                             VARCHAR2(10)
E_ADDRESS                           VARCHAR2(20)
E_PH_NO                             NOT NULL NUMBER(38)
DEPT_NAME                           VARCHAR2(20)
JOB_ID                              VARCHAR2(20)
SALARY                              VARCHAR2(25)

SQL>
```

4. Change the name of column/field Emp_no to E_no.

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```
SQL> alter table EMPLOYEE  
2 rename column Emp_no to E_no;
```

Table altered.

```
SQL> desc EMPLOYEE
```

Name	Null?	Type
E_NO	NOT NULL	NUMBER(38)
E_NAME		VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(20)
JOB_ID		VARCHAR2(20)
SALARY		VARCHAR2(25)
HIREDATE		DATE

```
SQL>
```

5. Modify the column width of the job field of emp table.

```
SQL> alter table EMPLOYEE  
2 modify Job_id varchar(15);
```

Table altered.

```
SQL> desc EMPLOYEE
```

Name	Null?	Type
E_NO	NOT NULL	NUMBER(38)
E_NAME		VARCHAR2(10)
E_ADDRESS		VARCHAR2(20)
E_PH_NO	NOT NULL	NUMBER(38)
DEPT_NAME		VARCHAR2(20)
JOB_ID		VARCHAR2(15)
SALARY		VARCHAR2(25)
HIREDATE		DATE

C) Create the following tables with specified attributes and constraints
Department Table: Department_Id varchar2(20) primarykey, Department_Name varchar2(25) with required data.

```
SQL> create table Department(Department_Id varchar(20) primary key,Department_Name varchar(25));
```

Table created.

```
SQL> desc Department
```

Name	Null?	Type
DEPARTMENT_ID	NOT NULL	VARCHAR2(20)
DEPARTMENT_NAME		VARCHAR2(25)

Instructor Table: Instructor_id varchar2(20) primary key, Department_Id varchar2(20) Foreign key, Last_Name varchar2(25), First_Name varchar2(200) must have value, Telephone varchar2(20) must be unique, gender char(1) must be either 'F' or 'M', city varchar(10) default value must be 'MUMBAI'.

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```
SQL> create table Instructor(Instructor_id varchar(20) primary key,Department_ID varchar(20) references Department(Department_ID),Last_Name varchar(25),First_name varchar(200) not null,Telephone varchar(20) unique,gender char(1) check(gender='F' or gender='M'),city varchar(10) default 'MUMBAI');
```

Table created.

```
SQL> create table Instructor_devangi as select * from Instructor;
```

Table created.

```
SQL> desc instructor
```

Name	Null?	Type
INSTRUCTOR_ID	NOT NULL	VARCHAR2(20)
DEPARTMENT_ID		VARCHAR2(20)
LAST_NAME		VARCHAR2(25)
FIRST_NAME	NOT NULL	VARCHAR2(200)
TELEPHONE		VARCHAR2(20)
GENDER		CHAR(1)
CITY		VARCHAR2(10)

SQL>

D) Create the following described below:

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
EMPNO	Int	-	-	-	Yes	-
ENAME	Varchar2	10	-	-	-	No
JOB	Varchar2	9	-	-	-	✓
MGR	Int	-	-	-	-	✓
HIREDATE	Date	-	-	-	-	✓
SAL	Number	-	7	2	-	✓
COMM	Int	-	-	-	-	✓
DEPTNO	Int	-	-	-	-	✓

```
SQL> 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));
```

Table created.

```
SQL> create table EMP_devangi as select * from EMP;
```

Table created.

```
SQL> desc EMP_devangi
```

Name	Null?	Type
EMPNO		NUMBER(38)
ENAME	NOT NULL	VARCHAR2(10)
JOB		VARCHAR2(9)
MGR		NUMBER(38)
HIREDATE		DATE
SAL		NUMBER(7,2)
COMM		NUMBER(38)
DEPTNO		NUMBER(38)

SQL>

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Results Explain Describe Saved SQL History

Object Type TABLE Object EMP_DEVANGI

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
EMP_DEVANGI	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	-	✓	-	-

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Language: en-us

Table Name: DEPT

Column	Data Type	Length	Precision	Scale	Primary Key	Nullable
DEPTNO	Int	-	-	-	Yes	-
DNAME	Varchar2	14	-	-	-	No
LOC	Varchar2	13	-	-	-	✓

```
SQL> create table DEPT_devangi(DEPTNO int primary key not null,DNAME varchar(14) not null,LOC varchar(13));  
  
Table created.  
  
SQL> desc DEPT_devangi  
Name Null? Type  
-----  
DEPTNO NOT NULL NUMBER(38)  
DNAME NOT NULL VARCHAR2(14)  
LOC VARCHAR2(13)  
  
SQL> █
```

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2281496328382941::NO::

ORACLE Database Express Edition

User: SYSTEM

Home > SQL > SQL Commands

Autocommit

Display

10

Save

Run

desc DEPT_devangi

Results

Explain

Describe

Saved SQL

History

Object Type

TABLE

Object

DEPT_DEVANGI

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

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Language: en-us

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