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# Post Graduate Diploma in Advance Computing

## Database Technologies Assignment – 1

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1: Create the DEPARTMENT table based on the following table chart.

COLUMN NAME	DATA TYPE	LENGTH
id	number	7
name	varchar2	10

Ans –

```
create table department(id number(7),name varchar2(10));
```

2: Create the EMPLOYEE table based on the following table chart.

COLUMN NAME	DATA TYPE	LENGTH
id	number	7
name	varchar2	20
deptid	number	7
email	varchar2	20
commission	decimal	0 precision 2 scale
gender	char	1
dayofhire	varchar2	10

Ans –

```
create table employee(  
    id number(7),  
    name varchar2(20),  
    deptid number(7),  
    email varchar2(20),  
    commission decimal(2,0),  
    gender char(1),  
    dayofhire varchar2(10)  
);
```

```
SQL> desc employee
```

Name	Null?	Type
-----		
ID		NUMBER(7)
NAME		VARCHAR2(20)
DEPTID		NUMBER(7)
EMAIL		VARCHAR2(20)
COMMISSION		NUMBER(2)
GENDER		CHAR(1)
DAYOFHIRE		VARCHAR2(10)

**a) Modify the EMPLOYEE table change name column length from 20 to 50. Confirm your modification.**

```
SQL> alter table employee modify name varchar2(50);
```

```
SQL> desc employee
```

Name	Null?	Type
ID		NUMBER(7)
NAME		VARCHAR2(20)
DEPTID		NUMBER(7)
EMAIL		VARCHAR2(20)
COMMISSION		NUMBER(2)
GENDER		CHAR(1)
DAYOFHIRE		VARCHAR2(10)

**b) rename commission to comm**

```
SQL> alter table employee rename column commission to comm;
```

```
SQL> desc employee
```

Name	Null?	Type
ID		NUMBER(7)
NAME		VARCHAR2(50)
DEPTID		NUMBER(7)
EMAIL		VARCHAR2(20)
COMM		NUMBER(2)
GENDER		CHAR(1)
DAYOFHIRE		VARCHAR2(10)

**c) add new column salary**

```
SQL> alter table employee add salary number(7);
```

```
SQL> desc employee
```

Name	Null?	Type
ID		NUMBER(7)
NAME		VARCHAR2(50)
DEPTID		NUMBER(7)
EMAIL		VARCHAR2(20)
COMM		NUMBER(2)
GENDER		CHAR(1)
DAYOFHIRE		VARCHAR2(10)
SALARY		NUMBER(7)

**d) remove commission column**

```
SQL> alter table employee drop (comm);
```

```
SQL> desc employee
```

Name	Null?	Type
-----		
ID		NUMBER(7)
NAME		VARCHAR2(50)
DEPTID		NUMBER(7)
EMAIL		VARCHAR2(20)
GENDER		CHAR(1)
DAYOFHIRE		VARCHAR2(10)
SALARY		NUMBER(7)

**verify your query after each command**

**4. Rename the EMPLOYEE table to EMPLOYEES.**

```
SQL> select * from tab;
```

TNAME	TABTYPE	CLUSTERID
-----		
EMPLOYEE	TABLE	
DEPARTMENT	TABLE	

```
SQL> rename employee to employees;
```

Table renamed.

```
SQL> select * from tab;
```

TNAME	TABTYPE	CLUSTERID
-----		
DEPARTMENT	TABLE	
EMPLOYEES	TABLE	

**5:**

**a) Add a table-level PRIMARY KEY constraint to the EMPLOYEES table on the id column. The constraint should be named at creation. Name the constraint my\_emp\_id\_pk.**

```
SQL> alter table employees add constraint my_emp_id_pk primary key(id);
```

**b) apply constraint on gender column allowed values are M,m,F,f**

```
SQL> alter table employees add constraint my_emp_gender check(gender  
in('m','M','f','F'));
```

**c) apply constraint on day of hire allowed values are day of weeks only**

```
SQL> alter table employees add constraint my_emp_dayofhire check(dayofhire  
in('monday','tuesday','thursday','wednesday','friday','saturday','sunday'));
```

**d) email field must be unique.**

```
SQL> alter table employees add constraint my_emp_email unique(email);
```

**e) enter some data in table and verify all constraints**

```
SQL> insert into employees values(101, 'faraz', 10, 'faraz@gmail.com', 'm', 'monday',  
10000);
```

1 row created.

```
SQL> insert into employees values(102, 'faraz', 10, 'faraz@gmail.com', 'm', 'monday',  
10000);
```

```
insert into employees values(102, 'faraz', 10, 'faraz@gmail.com', 'm', 'monday', 10000)  
*
```

ERROR at line 1:

ORA-00001: unique constraint (FARAZ.MY\_EMP\_EMAIL) violated

```
SQL> insert into employees values(102, 'faraz', 10, 'faraz1@gmail.com', 'm', 'monday',  
10000);
```

1 row created.

```
SQL> insert into employees values(102, 'faraz', 10, 'faraz1@gmail.com', 'm', 'monda',  
10000);  
insert into employees values(102, 'faraz', 10, 'faraz1@gmail.com', 'm', 'monda', 10000)  
*
```

ERROR at line 1:

ORA-02290: check constraint (FARAZ.MY\_EMP\_DAYOFHIRE) violated

**f) disable all constraints and enable then again.**

```
SQL> alter table employees disable constraint MY_EMP_GENDER;
```

Table altered.

```
SQL> alter table employees disable constraint MY_EMP_DAYOFHIRE;
```

Table altered.

```
SQL> alter table employees disable constraint MY_EMP_ID_PK;
```

Table altered.

```
SQL> alter table employees disable constraint MY_EMP_EMAIL;
```

Table altered.

```
SQL> alter table employees enable constraint MY_EMP_GENDER;
```

Table altered.

```
SQL> alter table employees enable constraint MY_EMP_DAYOFHIRE;
```

Table altered.

```
SQL> alter table employees enable constraint MY_EMP_ID_PK;
```

Table altered.

```
SQL> alter table employees enable constraint MY_EMP_EMAIL;
```

Table altered.

**g) display the name of all constraints applied on the table along with their respective column names.**

```
SQL> select constraint_name, column_name from user_cons_columns where  
table_name='EMPLOYEES';
```

CONSTRAINT_NAME	COLUMN_NAME
MY_EMP_ID_PK	ID
MY_EMP_GENDER	GENDER
MY_EMP_DAYOFHIRE	DAYOFHIRE
MY_EMP_EMAIL	EMAIL

**h) drop all the constraints associated with the table.**

```
SQL> alter table employees drop constraint MY_EMP_ID_PK;
```

Table altered.

```
SQL> alter table employees drop constraint MY_EMP_GENDER;
```

Table altered.

```
SQL> alter table employees drop constraint MY_EMP_DAYOFHIRE;
```

Table altered.

```
SQL> alter table employees drop constraint MY_EMP_EMAIL;
```

Table altered.

```
SQL> select constraint_name, column_name from user_cons_columns where  
table_name='EMPLOYEES';
```

no rows selected