Practice Exercise 1

1) Create a table name STUDENT with following structure.

```
CREATE TABLE STUDENT (
    RegNo NUMBER(3),
    Name VARCHAR2(15),
    Gender CHAR(1),
    DOB DATE,
    MobileNo NUMBER(10),
    City VARCHAR2(15)
);
```

2) Create a table name FACULTY with following structure.

Column

```
CREATE TABLE FACULTY (
    FacNo VARCHAR2(4),
    FacName VARCHAR2(15),
    Gender CHAR(1),
    DOB DATE,
    DOJ DATE,
    MobileNo NUMBER(10),
    DeptNo VARCHAR2(4)
);
```

3) Create a table name DEPARTMENT with following structure.

```
1   CREATE TABLE DEPARTMENT (
2       DeptNo VARCHAR2(4),
3       DeptName VARCHAR2(15),
4       DeptHead VARCHAR2(4)
5   );
```

4) Create a table name COURSE with following structure.

```
1   CREATE TABLE COURSE (
2       CourseNo VARCHAR2(3),
3       CourseDesc VARCHAR2(14),
4       CourseType CHAR(1),
5       SemNo CHAR(1),
6       HallNo VARCHAR2(4),
7       FacNo VARCHAR2(4)
8   );
9
```

5) Modify the table FACULTY by adding a column name DeptNo

of datatype VARCHAR(4)

```
1   ALTER TABLE FACULTY
2   ADD (DeptNo VARCHAR2(5));
3
```

6) Alter the table STUDENT with following structure.

Column Constraints

 # Name

PRIMARY

1 RegNo KEY

2 MobileNo NOT NULL

```
1   ALTER TABLE STUDENT
2       MODIFY (RegNo NUMBER(3) PRIMARY KEY,
3               MobileNo NUMBER(10) NOT NULL);
4
```

7) Alter the table name FACULTY with following structure. The DeptNo in this table refers the DeptNo in the DEPARTMENT table.

Column Constraints

 # Name

FacNo

PRIMARY

1 KEY

Gender

CHECK

2 'M' or 'F'

```
1  ALTER TABLE FACULTY
2  ADD CONSTRAINT FacNo_pk PRIMARY KEY (FacNo);
3  ALTER TABLE FACULTY
4  ADD CONSTRAINT Gender_ck CHECK (Gender IN ('M', 'F'));
```

8) After the FACULTY table is successfully created, test if you can add a constraint FOREIGN KEY to the DeptNo of this table.

```
5  ALTER TABLE FACULTY
6  ADD CONSTRAINT DeptNo_fk FOREIGN KEY (DeptNo) REFERENCES DEPARTMENT(DeptNo);
7
```

9) Alter the table name DEPARTMENT with following structure.

Column Constraint

 # Name

DeptNo

PRIMARY

1 KEY

```
1  ALTER TABLE DEPARTMENT
2      ADD CONSTRAINT DeptNo_pk PRIMARY KEY (DeptNo);
```

10) Alter the table name COURSE with following structure.

Column Constraint

 # Name

CourseNo

PRIMARY

1 KEY

2 SemNo 1 to 6

```
ALTER TABLE COURSE
    ADD CONSTRAINT CourseNo_pk PRIMARY KEY (CourseNo);
ALTER TABLE COURSE
    ADD CONSTRAINT SemNo_ck CHECK (SemNo IN ('1', '2', '3', '4', '5', '6'));

```

Practice Questions:

11. Populate all the five tables with your own data.

```
INSERT INTO STUDENT (RegNo, Name, Gender, DOB, MobileNo, City)
VALUES
(192372042,
 'Kewin Wilkins',
 'M',
 TO_DATE('2006-03-19', 'YYYY-MM-DD'),
 9876543210,
 'Kodaikanal');

```

```
INSERT INTO DEPARTMENT (DeptNo, DeptName, DeptHead)
VALUES ('D001', 'ComputerScience', 'F001');

```

```
INSERT INTO FACULTY (FacNo, FacName, Gender, DOB, DOJ, MobileNo, DeptNo)
VALUES ('F001', 'RAM', 'M', TO_DATE('1975-03-10', 'YYYY-MM-DD'), TO_DATE('2010-08-15', 'YYYY-MM-DD'), 9123456780, 'D001');

```

12. Update the value of student name whose register number is '191711342'

```
UPDATE STUDENT
SET Name = 'John Wick'
WHERE RegNo = 191711342;

```

13. Delete the record in the table FACULTY, who resigned her job.

```
DELETE FROM FACULTY
WHERE FACNAME = 'JACK SPARROW';
```

14. Modify the date of birth for the faculty whose name is RAM; with a value '1983-05-01'.

```
UPDATE FACULTY
SET DOB = TO_DATE('1983-05-01','YYYY-MM-DD')
WHERE FACName = 'RAM';
```

15. Remove all faculty who are having over 65 years

```
DELETE FROM FACULTY
WHERE MONTHS_BETWEEN(SYSDATE, DOB) / 12 > 65;

```

16. View all the records from the five tables.

```
1   SELECT * FROM STUDENT;
2   SELECT * FROM COURSE;
3   SELECT * FROM FACULTY;
4   SELECT * FROM DEPARTMENT;
```

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192372042	Kewin Wilkins	M	19-Mar-2006	9876543210	Kodaikanal
192311090	Mann	M	23-Jan-2005	9876543212	Chennai
192311087	Harsha	M	23-Nov-2004	9876543211	Chennai
191711342	John Wick	M	19-Mar-1817	9784651321	CARIBEAN
192311078	Tony Stark	M	23-Nov-1970	9876543211	New York

COURSENO	COURSEDESC	COURSETYPE	SEMNO	HALLNO	FACNO
CS5	PYTHON	P	1	H103	F004
CS4	JAVA	J	2	H103	F003
CS1	C	C	3	-	F001
CS2	Algorithms	C	4	H102	F001
CS6	CPP	P	3	-	F005
CS3	DBMS	D	1	H102	F002

DEPTNO	DEPTNAME	DEPTHEAD
D001	ComputerScience	F001
D002	ECE	F002
D005	EEE	F005
D003	mech	F003
D004	Civil	F004

FACNO	FACNAME	GENDER	DOB	DOJ	MOBILENO	DEPTNO
F001	RAM	M	01-May-1983	15-Aug-2010	9123456780	D001
F004	Dr. Vikram	M	22-May-1986	20-Jun-2006	9123857783	D004
F002	Dr. John Justin	M	22-Jul-1980	20-Jun-2012	9123456783	D002
F003	Dr. Strange	M	22-Jul-1979	20-Jun-2006	9123856783	D003
F005	Dr. Karnan	M	22-May-1983	20-Jun-2015	9123857788	D004

WHERE Clause Questions::

17. The student counsellor wanted to display the registration number,

student name and date of birth for all the students.

```
SELECT RegNo,Name,DOB
FROM STUDENT;
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	DOB
192372042	Kewin Wilkins	19-Mar-2006
192311090	Mann	23-Jan-2005
192311087	Harsha	23-Nov-2004

18. The controller of examinations wanted to list all the female students

```
SELECT Name
FROM STUDENT
WHERE GENDER = 'F';
```

Results | Explain | Describe | Saved SQL | History

NAME
Kavya
Vimala

20. Display all faculty details joined before “November 2014”

Language: SQL | Rows: 10 | Clear Command | Find Tables | Save | Run

```
SELECT *
FROM FACULTY
WHERE DOJ < TO_DATE('2014-11-01', 'YYYY-MM-DD');
```

Results | Explain | Describe | Saved SQL | History

FACNO	FACNAME	GENDER	DOB	DOJ	MOBILENO	DEPTNO
F001	RAM	M	01-May-1983	15-Aug-2010	9123456780	D001
F004	Dr. Vikram	M	22-May-1986	20-Jun-2006	9123857783	D004
F002	Dr. John Justin	M	22-Jul-1980	20-Jun-2012	9123456783	D002

21. Display all the courses not allotted to halls

```
SELECT *
FROM COURSE
WHERE HALLNO IS NULL;
```

Results | Explain | Describe | Saved SQL | History

COURSENO	COURSEDESC	COURSETYPE	SEMNO	HALLNO	FACNO
CS1	C	C	3	-	F001
CS6	CPP	P	3	-	F005

LIKE Clause Questions::

22. List the students whose name ends with the substring “ma”

```
SELECT *
FROM STUDENT
WHERE NAME LIKE '%ma';
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192311079	Seema	F	23-Nov-1999	9876543211	Ooty
192311089	Vasima	F	23-Nov-2000	9875543211	Siriya

2 rows returned in 0.01 seconds Download

23. Display all students whose name contains the substring “ma”

```
SELECT *
FROM STUDENT
WHERE NAME LIKE '%ma%';
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192372005	Vimala	F	05-Jun-1984	9751480769	Kodaikanal
192311079	Seema	F	23-Nov-1999	9876543211	Ooty
192311089	Vasima	F	23-Nov-2000	9875543211	Siriya

24. Find all the students who are located in cities having “Sal” as substring

```
SELECT *
FROM STUDENT
WHERE
city LIKE '%Sal%';
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192311085	James	M	23-Nov-2000	9875543211	Salazat

1 rows returned in 0.01 seconds Download

25. Display the students whose names do not contain six letters.

```
SELECT *
FROM STUDENT
WHERE NAME NOT LIKE '%_____%';
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192372024	Kavya	F	24-Jul-2010	9629689136	Kodaikanal
192311085	James	M	23-Nov-2000	9875543211	Salazat
192311090	Mann	M	23-Jan-2005	9876543212	Chennai

26. Find all the students whose names contains “th”

```
SELECT *
FROM STUDENT
WHERE NAME LIKE '%th%';
```

Results | Explain | Describe | Saved SQL | History

REGNO	NAME	GENDER	DOB	MOBILENO	CITY
192311110	Thor	M	23-Nov-2000	9757775865	Asgard
192311111	Thanos	M	23-Nov-2000	7757775765	Titan