

Practice Exercise 1

1) Create a table name STUDENT with following structure.

```
1 CREATE TABLE STUDENT (  
2     RegNo NUMBER(3),  
3     Name VARCHAR2(15),  
4     Gender CHAR(1),  
5     DOB DATE,  
6     MobileNo NUMBER(10),  
7     City VARCHAR2(15)  
8 );
```

2) Create a table name FACULTY with following structure.

Column

```
1 CREATE TABLE FACULTY (  
2     FacNo VARCHAR2(4),  
3     FacName VARCHAR2(15),  
4     Gender CHAR(1),  
5     DOB DATE,  
6     DOJ DATE,  
7     MobileNo NUMBER(10),  
8     DeptNo VARCHAR2(4)  
9 );  
10
```

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

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

Practice Questions:

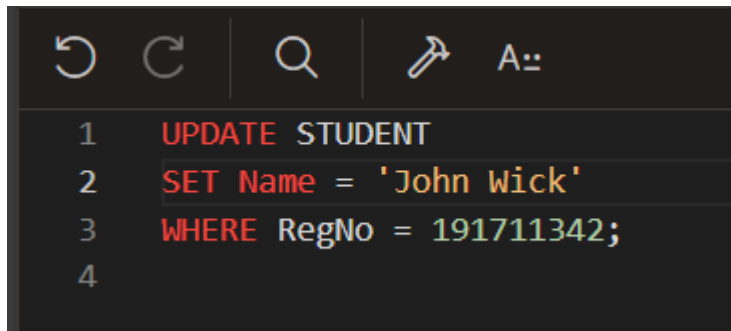
11. Populate all the five tables with your own data.

```
1 INSERT INTO STUDENT (RegNo, Name, Gender, DOB, MobileNo, City)
2 VALUES
3 (192372042,
4  'Kewin Wilkins',
5  'M',
6  TO_DATE('2006-03-19', 'YYYY-MM-DD'),
7  9876543210,
8  'Kodaikanal');
9
```

```
1 INSERT INTO DEPARTMENT (DeptNo, DeptName, DeptHead)
2 VALUES ('D001', 'ComputerScience', 'F001');
3
```

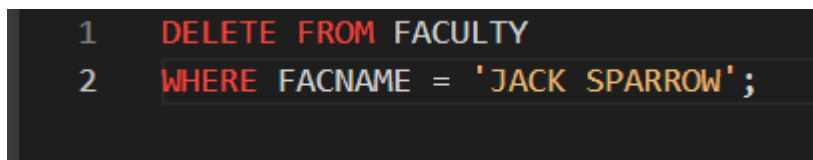
```
1 INSERT INTO FACULTY (FacNo, FacName, Gender, DOB, DOJ, MobileNo, DeptNo)
2 VALUES ('F001', 'RAM', 'M', TO_DATE('1975-03-10', 'YYYY-MM-DD'), TO_DATE('2010-08-15', 'YYYY-MM-DD'), 9123456780, 'D001');
3
```

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



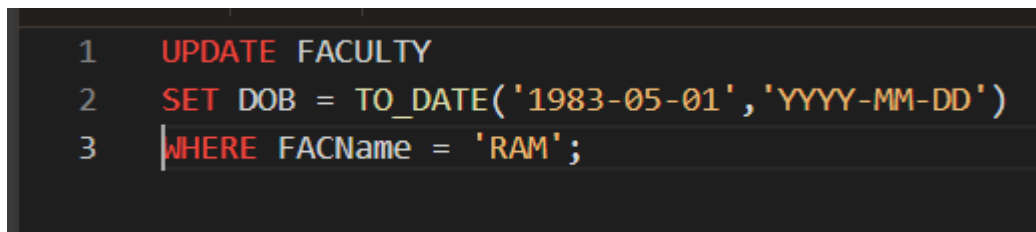
```
1 UPDATE STUDENT
2 SET Name = 'John Wick'
3 WHERE RegNo = 191711342;
4
```

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



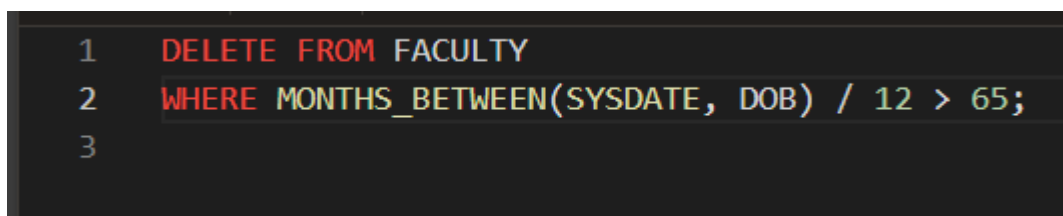
```
1 DELETE FROM FACULTY
2 WHERE FACNAME = 'JACK SPARROW';
```

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



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

15. Remove all faculty who are having over 65 years



```
1 DELETE FROM FACULTY
2 WHERE MONTHS_BETWEEN(SYSDATE, DOB) / 12 > 65;
3
```

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.

```

1 SELECT RegNo, Name, DOB
2 FROM STUDENT;

```

REGNO	NAME	DOB
192372042	Kewin Wilkins	19-Mar-2006
192511090	Mann	25-Jan-2005
192311087	Harsha	23-Nov-2004

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

```

1 SELECT Name
2 FROM STUDENT
3 WHERE GENDER = 'F';

```

NAME
Kavya
Vimala

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

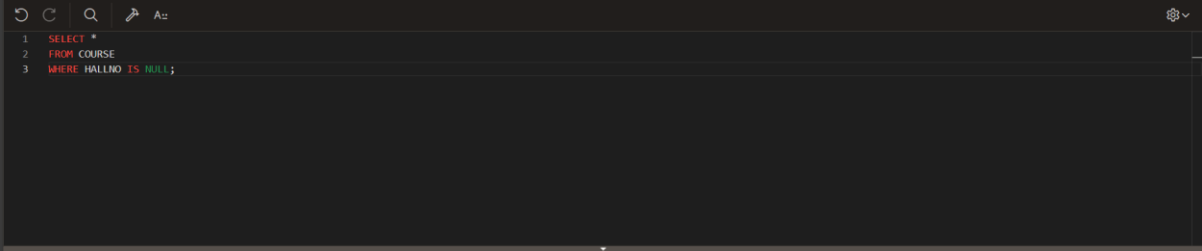
```

1 SELECT *
2 FROM FACULTY
3 WHERE DOJ < TO_DATE('2014-11-01', 'YYYY-MM-DD');
4

```

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



```

1 SELECT *
2 FROM COURSE
3 WHERE HALLNO IS NULL;

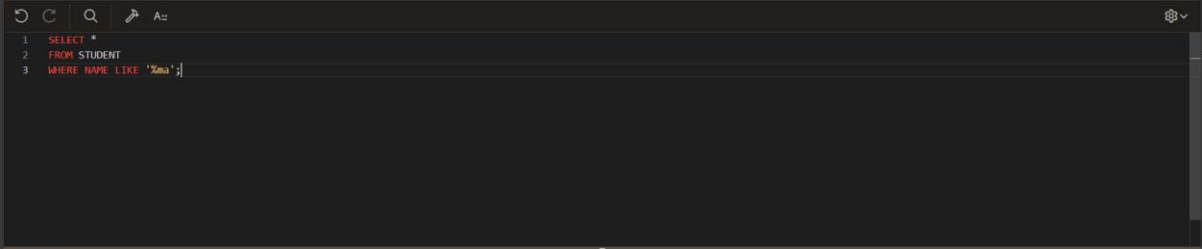
```

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”



```

1 SELECT *
2 FROM STUDENT
3 WHERE NAME LIKE '%ma';

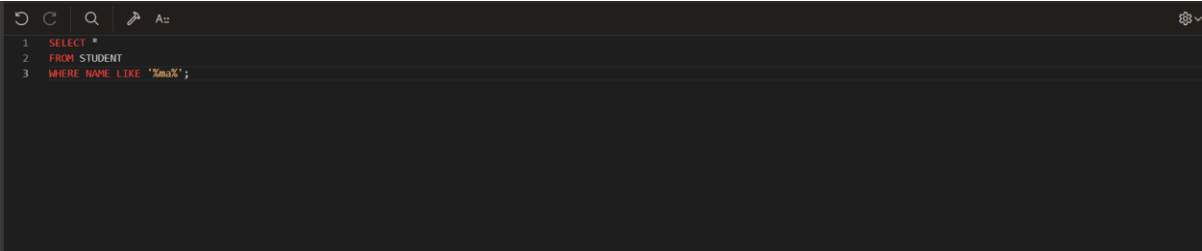
```

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	Siriyra

2 rows returned in 0.01 seconds [Download](#)

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



```

1 SELECT *
2 FROM STUDENT
3 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	Siriyra

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

The screenshot shows a SQL query editor with the following query:

```
1 SELECT *
2 FROM STUDENT
3 WHERE
4 city LIKE '%Sal%';
```

Below the query editor, the 'Results' tab is active, displaying a table with 6 columns: REGNO, NAME, GENDER, DOB, MOBILENO, and CITY. The table contains one row of data for a student named James.

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.

The screenshot shows a SQL query editor with the following query:

```
1 SELECT *
2 FROM STUDENT
3 WHERE NAME NOT LIKE '%_ _ _ _ _ _ %';
```

Below the query editor, the 'Results' tab is active, displaying a table with 6 columns: REGNO, NAME, GENDER, DOB, MOBILENO, and CITY. The table contains three rows of data for students Kavya, James, and Mann.

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”

The screenshot shows a SQL query editor with the following query:

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

Below the query editor, the 'Results' tab is active, displaying a table with 6 columns: REGNO, NAME, GENDER, DOB, MOBILENO, and CITY. The table contains two rows of data for students Thor and Thanos.

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