

**Expt No.: 2**  
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## LAB CAT 1

### Aim:

To solve the given problems by implementing in SQL.

```
Run SQL Command Line
SQL> connect
Enter user-name: system
Enter password:
Connected.
SQL> create table Student(regno varchar2(10) not null,
2 name varchar2(40) not null,
3 age number(3) not null,
4 address varchar2(100) not null,
5 cgpa number(2,2) not null,
6 doj date not null,
7 proc_ID number(4) not null,
8 constraint regno_pk primary key(regno),
9 constraint doj_cons check(doj > date '2000-02-04'));

Table created.

SQL> create table Faculty(fac_ID number(4) not null,
2 fac_name varchar2(40) not null,
3 fac_designation varchar2(20) not null,
4 constraint fac_ID_pk primary key(fac_ID));

Table created.

SQL> alter table Student add constraint proc_ID_fk foreign key(proc_ID) references Faculty(fac_ID);

Table altered.

SQL> create table Course(Code number(4) not null,
2 course_name varchar2(30) not null,
3 credits number(2) not null,
4 constraint Code_pk primary key(Code));

Table created.

SQL> create table Registered(reg_no varchar2(10) not null,
2 course_code number(4) not null,
3 constraint reg_pk primary key(reg_no, course_code),
4 constraint reg_fk foreign key(reg_no) references Student(regno),
5 constraint code_fk foreign key(course_code) references Course(Code));

Table created.
```

### Queries 1, 2, 3 - (adding constraints)

```
Run SQL Command Line
SQL> alter table Student add constraint cgpa_cons check(cgpa between 6.5 and 9.5);

Table altered.

SQL> alter table Student add constraint address_cons check(address in ('Pune', 'Chennai', 'Mumbai', 'Delhi'));

Table altered.

SQL> alter table Registered add column date_of_registered date not null;
alter table Registered add column date_of_registered date not null
*
ERROR at line 1:
ORA-00904: : invalid identifier

SQL> alter table Registered add date_of_registered date not null;

Table altered.

SQL>
```

## Adding faculty table values

```
Run SQL Command Line
Enter value for fac_name: Jadhav
Enter value for fac_designation: Phd
old 1: insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation')
new 1: insert into Faculty values(100, 'Jadhav', 'Phd')

1 row created.

SQL> Phd
SP2-0042: unknown command "Phd" - rest of line ignored.
SQL> insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation');
Enter value for fac_id: 101
Enter value for fac_name: Rajeev
Enter value for fac_designation: Mtech
old 1: insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation')
new 1: insert into Faculty values(101, 'Rajeev', 'Mtech')

1 row created.

SQL> insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation');
Enter value for fac_id: 102
Enter value for fac_name: Shreya
Enter value for fac_designation: B.Tech
old 1: insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation')
new 1: insert into Faculty values(102, 'Shreya', 'B.Tech')

1 row created.

SQL> insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation');
Enter value for fac_id: 103
Enter value for fac_name: Roza
Enter value for fac_designation: M.Tech
old 1: insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation')
new 1: insert into Faculty values(103, 'Roza', 'M.Tech')

1 row created.

SQL> insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation');
Enter value for fac_id: 104
Enter value for fac_name: Timaz
Enter value for fac_designation: Phd
old 1: insert into Faculty values(&fac_ID, '&fac_name', '&fac_designation')
```

## Dropping not null constraint on student name:-

```
Select Run SQL Command Line
ORA-00905: missing keyword

SQL> alter table Student drop column name;

Table altered.

SQL> alter table Student add name varchar2(20);

Table altered.
```

## Inserting values in Student table

```
Run SQL Command Line
Table altered.

SQL> insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID);
Enter value for regno: 18BCE001
Enter value for name: Raj
Enter value for age: 20
Enter value for address: Pune
Enter value for cgpa: 9
Enter value for doj: 20-Jul-2018
Enter value for proc_id: 101
old 1: insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID)
new 1: insert into Student values('18BCE001', 'Raj', 20, 'Pune', 9, '20-Jul-2018', 101)

1 row created.

SQL> insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID);
Enter value for regno: 18BCE003
Enter value for name: Ram
Enter value for age: 20
Enter value for address: Delhi
Enter value for cgpa: 8
Enter value for doj: 13-Jul-2018
Enter value for proc_id: 101
old 1: insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID)
new 1: insert into Student values('18BCE003', 'Ram', 20, 'Delhi', 8, '13-Jul-2018', 101)

1 row created.

SQL> insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID);
Enter value for regno: 19BCE005
Enter value for name:
Enter value for age: 18
Enter value for address: Chennai
Enter value for cgpa: 7
Enter value for doj: 13-Jul-2019
Enter value for proc_id: 102
old 1: insert into Student values('&regno', '&name', &age, '&address', &cgpa, '&doj', &proc_ID)
new 1: insert into Student values('19BCE005', '', 18, 'Chennai', 7, '13-Jul-2019', 102)

1 row created.
```

## Inserting into Course

```
Run SQL Command Line
19BCE005                18
Chennai
7 13-JUL-19            102

SQL> insert into Course values(&Code, '&course_name', &credits);
Enter value for code: 102
Enter value for course_name: OOPS
Enter value for credits: 3
old 1: insert into Course values(&Code, '&course_name', &credits)
new 1: insert into Course values(102, 'OOPS', 3)

1 row created.

SQL> insert into Course values(&Code, '&course_name', &credits);
Enter value for code: 101
Enter value for course_name: Programming
Enter value for credits: 3
old 1: insert into Course values(&Code, '&course_name', &credits)
new 1: insert into Course values(101, 'Programming', 3)

1 row created.

SQL> insert into Course values(&Code, '&course_name', &credits);
Enter value for code: 204
Enter value for course_name: DBMS
Enter value for credits: 4
old 1: insert into Course values(&Code, '&course_name', &credits)
new 1: insert into Course values(204, 'DBMS', 4)

1 row created.

SQL> select * from Course;

   CODE COURSE_NAME          CREDITS
-----
   102 OOPS                  3
   101 Programming          3
   204 DBMS                  4

SQL>
```

## Queries:-

4)

```
Run SQL Command Line
REGNO      NAME      AGE
-----
ADDRESS
-----
CGPA  DOJ      PROC_ID
-----
18BCE001  Raj      20
Pune      9 20-JUL-18      101
18BCE003  Ram      20
Delhi     8 13-JUL-18      101
REGNO      NAME      AGE
-----
ADDRESS
-----
CGPA  DOJ      PROC_ID
-----
19BCE005      18
Chennai      7 13-JUL-19      102

SQL> select * from Student where name like ('__');

REGNO      NAME      AGE
-----
ADDRESS
-----
CGPA  DOJ      PROC_ID
-----
18BCE001  Raj      20
Pune      9 20-JUL-18      101
18BCE003  Ram      20
Delhi     8 13-JUL-18      101
```

5)

```
Run SQL Command Line

SQL>
SQL>
SQL>
SQL>
SQL> select * from Student where name like ("__");
select * from Student where name like ("__")
*
ERROR at line 1:
ORA-00904: "__": invalid identifier

SQL> select * from Student where regno = '18BCE001' or regno = '18BCE003';

REGNO      NAME      AGE
-----
ADDRESS
-----
CGPA  DOJ      PROC_ID
-----
18BCE001  Raj      20
Pune      9 20-JUL-18      101
18BCE003  Ram      20
Delhi     8 13-JUL-18      101
REGNO      NAME      AGE
-----
ADDRESS
-----
CGPA  DOJ      PROC_ID
-----

SQL>
```

6)

```
Run SQL Command Line

SQL> update Course set course_name = 'C++' where Code = 102;
1 row updated.

SQL> select * from Course;

CODE  COURSE_NAME  CREDITS
-----
102  C++              3
101  Programming       3
204  DBMS              4

SQL> 
```

7)

```
Run SQL Command Line

Chennai
7 13-JUL-19 102

SQL> select * from Student where name is null;

REGNO  NAME  AGE
-----
ADDRESS
-----
CGPA  DOJ  PROC_ID
-----
19BCE005 18
Chennai
7 13-JUL-19 102

SQL> 
```

8)

```
Run SQL Command Line

SQL> alter table Course rename column course_name to Course_name;
alter table Course rename column course_name to Course_name
*
ERROR at line 1:
ORA-00957: duplicate column name

SQL> alter table Course rename column course_name to cccourse_name;

Table altered.

SQL> select * from Course;

  CODE CCCOURSE_NAME          CREDITS
-----
  102 C++                      3
  101 Programming             3
  204 DBMS                     4

SQL>
```

9)

```
Run SQL Command Line

-----
CGPA DOJ          PROC_ID
-----

SQL> alter table Course rename column course_name to Course_name;
alter table Course rename column course_name to Course_name
*
ERROR at line 1:
ORA-00957: duplicate column name

SQL> alter table Course rename column course_name to cccourse_name;

Table altered.

SQL> select * from Course;

  CODE CCCOURSE_NAME          CREDITS
-----
  102 C++                      3
  101 Programming             3
  204 DBMS                     4

SQL> select * from Student where proc_ID = 101;
SP2-0734: unknown command beginning "select * fr..." - rest of line ignored.
SQL> select * from Student where proc_ID = 101;

REGNO    NAME          AGE
-----
ADDRESS
-----
CGPA DOJ          PROC_ID
-----
18BCE001 Raj          20
Pune
9 20-JUL-18      101
18BCE003 Ram          20
Delhi
8 13-JUL-18      101
```

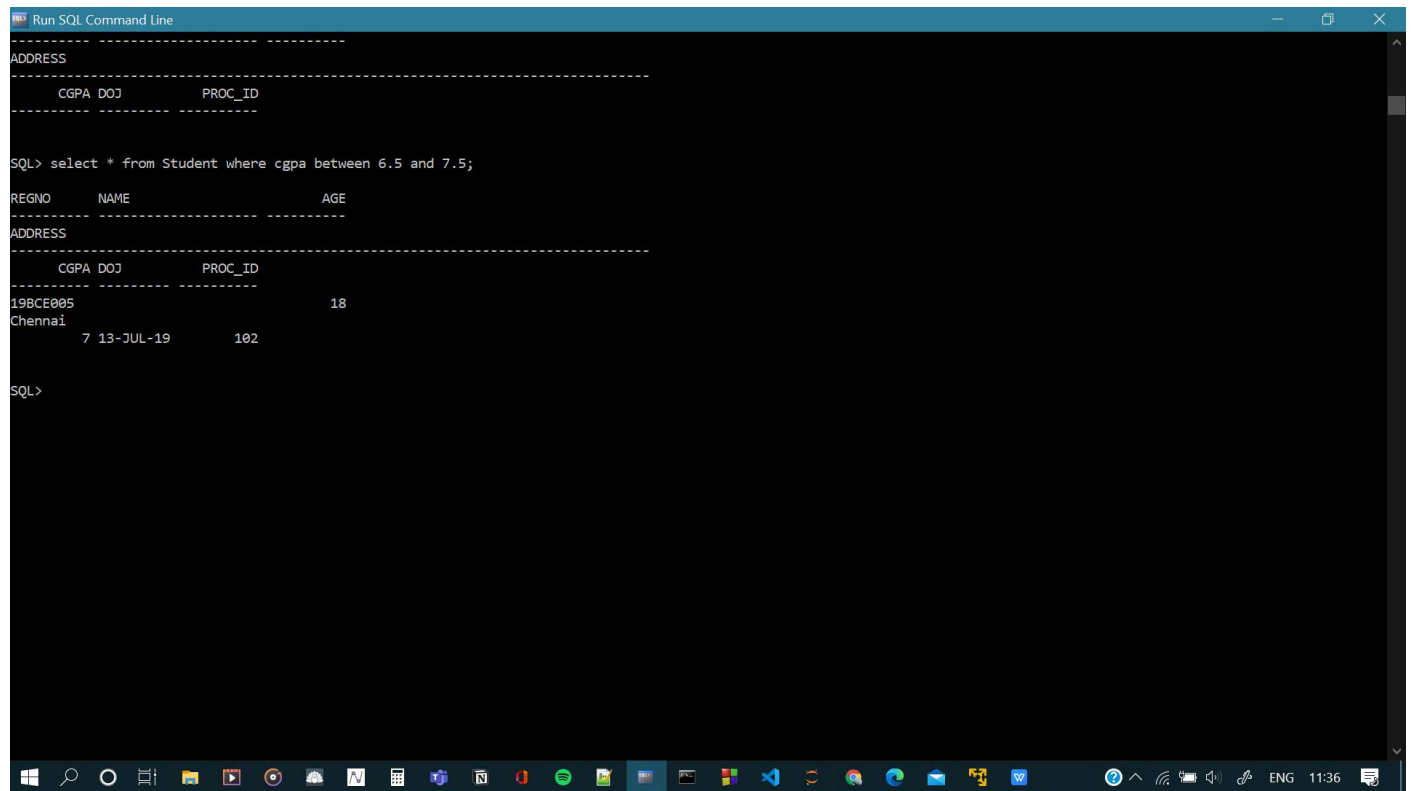
10)

```
Run SQL Command Line
-----
ADDRESS
-----
CGPA DOJ          PROC_ID
-----

SQL> select * from Student where cgpa between 6.5 and 7.5;

REGNO    NAME          AGE
-----
ADDRESS
-----
CGPA DOJ          PROC_ID
-----
19BCE005          18
Chennai
7 13-JUL-19      102

SQL>
```

The image shows a Windows desktop environment. A window titled "Run SQL Command Line" is open, displaying a SQL query and its results. The query is "select \* from Student where cgpa between 6.5 and 7.5;". The results are displayed in two tables. The first table has columns REGNO, NAME, and AGE, with one row showing REGNO 19BCE005, NAME Chennai, and AGE 18. The second table has columns CGPA, DOJ, and PROC\_ID, with one row showing CGPA 7, DOJ 13-JUL-19, and PROC\_ID 102. The Windows taskbar is visible at the bottom, showing various application icons and system tray icons. The system clock indicates the time is 11:36 and the language is set to ENG.