

DBMS Practical-1

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Branch: AIML

Sec: E

Batch: E2

```
SQL> CREATE TABLE COURSE (  
2  CID NUMBER(3) NOT NULL,  
3  CNAME VARCHAR2(30) NOT NULL,  
4  CREDIT NUMBER(1),  
5  CONSTRAINT COURSE_PK_CID PRIMARY KEY (CID),  
6  CONSTRAINT COURSE_CK_CID CHECK (CID BETWEEN 101 AND 149),  
7  CONSTRAINT COURSE_CK_CREDIT CHECK (CREDIT BETWEEN 1 AND 5),  
8  CONSTRAINT COURSE_UQ_CNAME UNIQUE (CNAME)  
9 );
```

Table created.

```
SQL> CREATE TABLE PARTICIPANT (  
2  PID NUMBER(4) NOT NULL,  
3  PNAME VARCHAR2(25) NOT NULL,  
4  GENDER CHAR(1) NOT NULL,  
5  CID NUMBER(3),  
6  CONSTRAINT PARTICIPANT_PK_PID PRIMARY KEY (PID),  
7  CONSTRAINT PARTICIPANT_CK_PID CHECK (PID BETWEEN 1001 AND 9999),  
8  CONSTRAINT PARTICIPANT_CK_GENDER CHECK (GENDER IN ( 'M', 'F' )),  
9  CONSTRAINT PARTICIPANT_FK_COURSE_CID FOREIGN KEY  
10 (CID) REFERENCES COURSE(CID)  
11
```

```
SQL> );
```

SP2-0042: unknown command ")" - rest of line ignored.

```
SQL> CREATE TABLE PARTICIPANT (  
2  PID NUMBER(4) NOT NULL,  
3  PNAME VARCHAR2(25) NOT NULL,
```

```

4 GENDER CHAR(1) NOT NULL,
5 CID NUMBER(3),
6 CONSTRAINT PARTICIPANT_PK_PID PRIMARY KEY (PID),
7 CONSTRAINT PARTICIPANT_CK_PID CHECK (PID BETWEEN 1001 AND 9999),
8 CONSTRAINT PARTICIPANT_CK_GENDER CHECK (GENDER IN ( 'M', 'F' )),
9 CONSTRAINT PARTICIPANT_FK_COURSE_CID FOREIGN KEY
10 (CID) REFERENCES COURSE(CID)
11 );

```

Table created.

SQL> DESCRIBE COURSE;

Name	Null?	Type
CID	NOT NULL	NUMBER(3)
CNAME	NOT NULL	VARCHAR2(30)
CREDIT		NUMBER(1)

SQL> DESC PARTICIPANT;

Name	Null?	Type
PID	NOT NULL	NUMBER(4)
PNAME	NOT NULL	VARCHAR2(25)
GENDER	NOT NULL	CHAR(1)
CID		NUMBER(3)

SQL> INSERT INTO COURSE

```

2 VALUES(101,'DATABASE MANAGEMENT SYSTEMS',5);

```

1 row created.

SQL> SELECT * FROM COURSE;

CID	CNAME	CREDIT
-----	-------	--------

101 DATABASE MANAGEMENT SYSTEMS	5
---------------------------------	---

SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)

2 VALUES(102,'OBJECT ORIENTED PROGRAMMING',5);

1 row created.

SQL> INSERT INTO COURSE(CNAME,CREDIT,CID)

2 VALUES('OPERARING SYSTEM',4,103);

1 row created.

SQL> SELECT * FROM COURSE;

CID	CNAME	CREDIT
-----	-------	--------

101	DATABASE MANAGEMENT SYSTEMS	5
-----	-----------------------------	---

102	OBJECT ORIENTED PROGRAMMING	5
-----	-----------------------------	---

103	OPERARING SYSTEM	4
-----	------------------	---

SQL> INSERT INTO PARTICIPANT VALUES (1001, 'Albert DCosta', 'M', 101);

1 row created.

SQL> INSERT INTO PARTICIPANT VALUES (1002, 'Foster Silva', 'M', 102);

1 row created.

SQL> INSERT INTO PARTICIPANT VALUES (1003, 'Maria Anderson', 'F', 102);

1 row created.

SQL> INSERT INTO PARTICIPANT VALUES (1004, 'Pamela Smith', 'F', 101);

1 row created.

SQL> INSERT INTO PARTICIPANT VALUES (1005, 'Indiana Jones', 'M', NULL);

1 row created.

SQL> INSERT INTO PARTICIPANT VALUES (1006, 'Martinez Wales', 'F', 103);

1 row created

SQL> SELECT * FROM PARTICIPANT;

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Martinez Wales	F	103

6 rows selected.

SQL> DESC USER_CONSTRAINTS;

Name	Null?	Type
OWNER		VARCHAR2(30)
CONSTRAINT_NAME	NOT NULL	VARCHAR2(30)
CONSTRAINT_TYPE		VARCHAR2(1)
TABLE_NAME	NOT NULL	VARCHAR2(30)
SEARCH_CONDITION		LONG
R_OWNER		VARCHAR2(30)
R_CONSTRAINT_NAME		VARCHAR2(30)
DELETE_RULE		VARCHAR2(9)
STATUS		VARCHAR2(8)
DEFERRABLE		VARCHAR2(14)
DEFERRED		VARCHAR2(9)
VALIDATED		VARCHAR2(13)
GENERATED		VARCHAR2(14)
BAD		VARCHAR2(3)
RELY		VARCHAR2(4)
LAST_CHANGE		DATE
INDEX_OWNER		VARCHAR2(30)

INDEX_NAME	VARCHAR2(30)
INVALID	VARCHAR2(7)
VIEW_RELATED	VARCHAR2(14)

```
SQL> SELECT TABLE_NAME,CONSTRAINT_NAME, CONSTRAINT_TYPE FROM USER_CONSTRAINTS
2 WHERE TABLE_NAME IN ('PARTICIPANT');
```

TABLE_NAME	CONSTRAINT_NAME	C
PARTICIPANT	SYS_C0011590	C
PARTICIPANT	SYS_C0011591	C
PARTICIPANT	SYS_C0011592	C
PARTICIPANT	PARTICIPANT_CK_PID	C
PARTICIPANT	PARTICIPANT_CK_GENDER	C
PARTICIPANT	PARTICIPANT_PK_PID	P
PARTICIPANT	PARTICIPANT_FK_COURSE_CID	R

7 rows selected.

```
SQL> SELECT TABLE_NAME,CONSTRAINT_NAME, CONSTRAINT_TYPE FROM USER_CONSTRAINTS
2 WHERE TABLE_NAME IN ('COURSE');
```

TABLE_NAME	CONSTRAINT_NAME	C
COURSE	SYS_C0011584	C
COURSE	SYS_C0011585	C
COURSE	COURSE_CK_CID	C
COURSE	COURSE_CK_CREDIT	C
COURSE	COURSE_PK_CID	P
COURSE	COURSE_UQ_CNAME	U

6 rows selected.

```
SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
2 VALUES(101,'MATHEMATICS',5);
```

```
INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
*
```

ERROR at line 1:

ORA-00001: unique constraint (E39Gaurav.COURSE_PK_CID) violated

```
SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
2 VALUES(NULL,'MATHEMATICS',5);
```

```
VALUES(NULL,'MATHEMATICS',5)
```

```
*
```

ERROR at line 2:

ORA-01400: cannot insert NULL into ("E39Gaurav"."COURSE"."CID")

```
SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
2 VALUES(105,'MATHEMATICS',9);
```

```
INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
*
```

ERROR at line 1:

ORA-02290: check constraint (E39Gaurav.COURSE_CK_CREDIT) violated

```
SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
2 VALUES(105,'DATABASE MANAGEMENT SYSTEMS',9);
```

```
INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
*
```

ERROR at line 1:

ORA-02290: check constraint (E39Gaurav.COURSE_CK_CREDIT) violated

```
SQL> INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
2 VALUES(105,'DATABASE MANAGEMENT SYSTEMS',5);
```

```
INSERT INTO COURSE(CID,CNAME,CREDIT)
```

```
*
```

ERROR at line 1:

ORA-00001: unique constraint (E39Gaurav.COURSE_UQ_CNAME) violated

```
SQL> COMMIT COURSE;
```

```
COMMIT COURSE
```

```
*
```

```
ERROR at line 1:
```

```
ORA-02185: a token other than WORK follows COMMIT
```

```
SQL> COMMIT;
```

```
Commit complete.
```

```
SQL> SELECT * FROM PARTICIPANT;
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Martinez Wales	F	103

```
6 rows selected.
```

```
SQL> SET LINESIZE 250;
```

```
SQL> SELECT * FROM COURSE,PARTICIPANT;
```

CID	CNAME	CREDIT	PID	PNAME	G	CID
101	DATABASE MANAGEMENT SYSTEMS	5	1001	Albert DCosta	M	101
101	DATABASE MANAGEMENT SYSTEMS	5	1002	Foster Silva	M	102
101	DATABASE MANAGEMENT SYSTEMS	5	1003	Maria Anderson	F	102
101	DATABASE MANAGEMENT SYSTEMS	5	1004	Pamela Smith	F	101
101	DATABASE MANAGEMENT SYSTEMS	5	1005	Indiana Jones	M	
101	DATABASE MANAGEMENT SYSTEMS	5	1006	Martinez Wales	F	103
102	OBJECT ORIENTED PROGRAMMING	5	1001	Albert DCosta	M	101

102 OBJECT ORIENTED PROGRAMMING	5	1002 Foster Silva	M	102
102 OBJECT ORIENTED PROGRAMMING	5	1003 Maria Anderson	F	102
102 OBJECT ORIENTED PROGRAMMING	5	1004 Pamela Smith	F	101
102 OBJECT ORIENTED PROGRAMMING	5	1005 Indiana Jones	M	

CID CNAME	CREDIT	PID PNAME	G	CID
-----------	--------	-----------	---	-----

102 OBJECT ORIENTED PROGRAMMING	5	1006 Martinez Wales	F	103
103 OPERARING SYSTEM	4	1001 Albert DCosta	M	101
103 OPERARING SYSTEM	4	1002 Foster Silva	M	102
103 OPERARING SYSTEM	4	1003 Maria Anderson	F	102
103 OPERARING SYSTEM	4	1004 Pamela Smith	F	101
103 OPERARING SYSTEM	4	1005 Indiana Jones	M	
103 OPERARING SYSTEM	4	1006 Martinez Wales	F	103

18 rows selected.

SQL> INSERT INTO PARTICIPANT

2 VALUES(1007,'Gaurav Kedia','M',105);

INSERT INTO PARTICIPANT

*

ERROR at line 1:

ORA-02291: integrity constraint (E39Gaurav.PARTICIPANT_FK_COURSE_CID) violated - parent key not found

SQL> SELECT * FROM PARTICIPANT

2 WHERE GENDER='M';

PID PNAME	G	CID
-----------	---	-----

1001 Albert DCosta	M	101
1002 Foster Silva	M	102
1005 Indiana Jones	M	

SQL> SELECT * FROM PARTICIPANT

2 WHERE GENDER='F';

PID PNAME	G	CID

1003 Maria Anderson	F	102
1004 Pamela Smith	F	101
1006 Martinez Wales	F	103

SQL> SELECT * FROM PARTICIPANT

2 WHERE GENDER='F' ORDER BY CID;

PID PNAME	G	CID

1004 Pamela Smith	F	101
1003 Maria Anderson	F	102
1006 Martinez Wales	F	103

SQL> SELECT * FROM PARTICIPANT

2 WHERE GENDER='F' ORDER BY CID DESC;

PID PNAME	G	CID

1006 Martinez Wales	F	
103		
1003 Maria Anderson	F	
102		

1004 Pamela Smith F
101

```
SQL> SELECT PNAME, CID  
2 FROM PARTICIPANT;
```

PNAME	CID
Albert DCosta	101
Foster Silva	102
Maria Anderson	102
Pamela Smith	101
Indiana Jones	
Martinez Wales	103

6 rows selected.

```
SQL> SELECT PNAME AS PARTICIPANT_NAME, GENDER AS SEX  
2 FROM PARTICIPANT;
```

PARTICIPANT_NAME	SEX
Albert DCosta	M
Foster Silva	M
Maria Anderson	F
Pamela Smith	F
Indiana Jones	M
Martinez Wales	F

6 rows selected.

```
SQL> SPOOL OFF;
```

```
SQL> INSERT INTO PARTICIPANT VALUES(&PID,&PNAME,&G,&CID);
```

Enter value for pid: 1006

Enter value for pname: 'Gaurav Kedia'

Enter value for g: 'M'

Enter value for cid: 102

old 1: INSERT INTO PARTICIPANT VALUES(&PID,&PNAME,&G,&CID)

new 1: INSERT INTO PARTICIPANT VALUES(1006,'Gaurav Kedia','M',102)

1 row created.

SQL> /

Enter value for pid: 1007

Enter value for pname: 'CHAITREYA BHELKAR'

Enter value for g: 'M'

Enter value for cid: 102

old 1: INSERT INTO PARTICIPANT VALUES(&PID,&PNAME,&G,&CID)

new 1: INSERT INTO PARTICIPANT VALUES(1007,'CHAITREYA BHELKAR','M',102)

1 row created.

SQL> COMMIT;

Commit complete.

SQL> SELECT * FROM PARTICIPANT;

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

7 rows selected.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 ;
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

7 rows selected.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 ORDER BY PID DESC;
```

PID	PNAME	G	CID
1007	CHAITREYA BHELKAR	M	102
1006	Gaurav Kedia		M 102
1005	Indiana Jones	M	
1004	Pamela Smith	F	101
1003	Maria Anderson	F	102
1002	Foster Silva	M	102
1001	Albert DCosta	M	101

7 rows selected.

```
SQL> SELECT * FROM PARTICIPANT ORDER BY PID ASC;
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

7 rows selected.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE GENDER='M';
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE GENDER='F' ORDER BY PID DESC;
```

PID	PNAME	G	CID
1004	Pamela Smith	F	101
1003	Maria Anderson	F	102

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE GENDER='M' ORDER BY PID DESC;
```

PID	PNAME	G	CID
1007	CHAITREYA BHELKAR	M	102
1006	Gaurav Kedia	M	102
1005	Indiana Jones	M	
1002	Foster Silva	M	102
1001	Albert DCosta	M	101

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE CID IS NULL;
```

PID	PNAME	G	CID
1005	Indiana Jones	M	

```
SQL> SELECT * FROM COURSE
```

```
2 ;
```

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	MATHEMATICS	5
104	MICROCONTROLLER	4
105	MACHINE LEARNING	3
106	DSA	4

6 rows selected.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE CID IS NOT NULL;
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1006	Gaurav Kedia	M	102
1007	CHAITREYA BHELKAR	M	102

6 rows selected.

```
SQL> SELECT * FROM COURSE
```

```
2 WHERE CREDIT>3;
```

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	MATHEMATICS	5
104	MICROCONTROLLER	4
106	DSA	4

```
SQL> SELECT * FROM COURSE
```

```
2 WHERE CNAME LIKE 'D%';
```

CID	CNAME	CREDIT
101	Database Management Systems	5

106 DSA 4

SQL> SELECT * FROM COURSE

2 WHERE CNAME LIKE '_A%';

CID	CNAME	CREDIT
103	MATHEMATICS	5
105	MACHINE LEARNING	3

SQL> SELECT * FROM COURSE;

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	MATHEMATICS	5
104	MICROCONTROLLER	4
105	MACHINE LEARNING	3
106	DSA	4

6 rows selected.

SQL> SELECT * FROM COURSE

2 WHERE CNAME LIKE '_A%' OR '_a%';

WHERE CNAME LIKE '_A%' OR '_a%'

*

ERROR at line 2:

ORA-00920: invalid relational operator

SQL> SELECT * FROM COURSE

2 WHERE CNAME LIKE '_A%' OR CNAME LIKE '_a%';

CID CNAME	CREDIT

101 Database Management Systems	5
103 MATHEMATICS	5
105 MACHINE LEARNING	3

SQL> SELECT COURSE.CID,CNAME,PID,PNAME FROM COURSE,PARTICIPANT;

CID CNAME	PID PNAME

101 Database Management Systems	1001 Albert DCosta
101 Database Management Systems	1002 Foster Silva
101 Database Management Systems	1003 Maria Anderson
101 Database Management Systems	1004 Pamela Smith
101 Database Management Systems	1005 Indiana Jones
101 Database Management Systems	1006 Gaurav Kedia
101 Database Management Systems	1007 CHAITREYA BHELKAR
102 Object-Oriented Systems	1001 Albert DCosta
102 Object-Oriented Systems	1002 Foster Silva
102 Object-Oriented Systems	1003 Maria Anderson
102 Object-Oriented Systems	1004 Pamela Smith

CID CNAME	PID PNAME

102 Object-Oriented Systems	1005 Indiana Jones
102 Object-Oriented Systems	1006 Gaurav Kedia
102 Object-Oriented Systems	1007 CHAITREYA BHELKAR
103 MATHEMATICS	1001 Albert DCosta
103 MATHEMATICS	1002 Foster Silva

103 MATHEMATICS	1003 Maria Anderson
103 MATHEMATICS	1004 Pamela Smith
103 MATHEMATICS	1005 Indiana Jones
103 MATHEMATICS	1006 Gaurav Kedia
103 MATHEMATICS	1007 CHAITREYA BHELKAR
104 MICROCONTROLLER	1001 Albert DCosta

CID CNAME

PID PNAME

104 MICROCONTROLLER	1002 Foster Silva
104 MICROCONTROLLER	1003 Maria Anderson
104 MICROCONTROLLER	1004 Pamela Smith
104 MICROCONTROLLER	1005 Indiana Jones
104 MICROCONTROLLER	1006 Gaurav Kedia
104 MICROCONTROLLER	1007 CHAITREYA BHELKAR
105 MACHINE LEARNING	1001 Albert DCosta
105 MACHINE LEARNING	1002 Foster Silva
105 MACHINE LEARNING	1003 Maria Anderson
105 MACHINE LEARNING	1004 Pamela Smith
105 MACHINE LEARNING	1005 Indiana Jones

CID CNAME

PID PNAME

105 MACHINE LEARNING	1006 Gaurav Kedia
105 MACHINE LEARNING	1007 CHAITREYA BHELKAR
106 DSA	1001 Albert DCosta
106 DSA	1002 Foster Silva
106 DSA	1003 Maria Anderson
106 DSA	1004 Pamela Smith
106 DSA	1005 Indiana Jones
106 DSA	1006 Gaurav Kedia

106 DSA

1007 CHAITREYA BHELKAR

42 rows selected.

```
SQL> SELECT COURSE.CID,CNAME,PID,PNAME FROM COURSE,PARTICIPANT WHERE CNAME LIKE  
'Database Management System';
```

no rows selected

```
SQL> SELECT COURSE.CID,CNAME,PID,PNAME FROM COURSE,PARTICIPANT WHERE CNAME LIKE  
'Database Management Systems';
```

CID CNAME	PID PNAME
101 Database Management Systems	1001 Albert DCosta
101 Database Management Systems	1002 Foster Silva
101 Database Management Systems	1003 Maria Anderson
101 Database Management Systems	1004 Pamela Smith
101 Database Management Systems	1005 Indiana Jones
101 Database Management Systems	1006 Gaurav Kedia
101 Database Management Systems	1007 CHAITREYA BHELKAR

7 rows selected.

```
SQL> SELECT COURSE.CID,CNAME,PID,PNAME FROM COURSE,PARTICIPANT WHERE  
COURSE.CID=PARTICIPANT.CID AND CNAME LIKE 'Database Management Systems';
```

CID CNAME	PID PNAME
101 Database Management Systems	1001 Albert DCosta
101 Database Management Systems	1004 Pamela Smith

```
SQL> SELECT * FROM PARTICIPANT;
```

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

7 rows selected.

SQL> COMMIT;

Commit complete.

SQL> SELECT MAX(CREDIT) FROM COURSE;

MAX(CREDIT)

5

SQL> SELECT MIN(CREDIT) FROM COURSE;

MIN(CREDIT)

3

SQL> SELECT AVG(CREDIT) FROM COURSE;

AVG(CREDIT)

4.16666667

SQL> SELECT MIN(CREDIT),MAX(CREDIT),AVG(CREDIT) FROM COURSE;

MIN(CREDIT) MAX(CREDIT) AVG(CREDIT)

3 5 4.16666667

SQL> SELECT MIN(CREDIT) AS "MINIMUM CREDIT",MAX(CREDIT),AVG(CREDIT) FROM COURSE;

MINIMUM CREDIT MAX(CREDIT) AVG(CREDIT)

3 5 4.16666667

SQL> UPDATE COURSE

2 SET CNAME='DAA',CREDIT=5

3 WHERE CID=103;

1 row updated.

SQL> SELECT * FROM COURSE;

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	DAA	5
104	MICROCONTROLLER	4
105	MACHINE LEARNING	3
106	DSA	4

6 rows selected.

```
SQL> DELETE FROM COURSE
```

```
2 WHERE CID=106;
```

1 row deleted.

```
SQL> SELECT * FROM COURSE;
```

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	DAA	5
104	MICROCONTROLLER	4
105	MACHINE LEARNING	3

```
SQL> ROLLBACK;
```

Rollback complete.

```
SQL> SELECT * FROM COURSE;
```

CID	CNAME	CREDIT
101	Database Management Systems	5
102	Object-Oriented Systems	4
103	MATHEMATICS	5
104	MICROCONTROLLER	4
105	MACHINE LEARNING	3
106	DSA	4

6 rows selected.

```
SQL> DELETE FROM PARTICIPANT
```

```
2 WHERE PNAME LIKE 'Albert DCosta';
```

1 row deleted.

SQL> select * from participant;

PID	PNAME	G	CID
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR	M	102

6 rows selected.

SQL> DELETE FROM PARTICIPANT

2 WHERE 1=1;

6 rows deleted.

SQL> SELECT * FROM PARTICIPANT;

no rows selected

SQL> ROLLBACK;

Rollback complete.

SQL> SELECT * FROM PARTICIPANT;

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101

1005	Indiana Jones	M	
1006	Gaurav Kedia	M	102
1007	CHAITREYA BHELKAR	M	102

7 rows selected.

SQL> COMMIT;

Commit complete.

SQL> SELECT * FROM PARTICIPANT;

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Gaurav Kedia		M 102
1007	CHAITREYA BHELKAR		M 102

7 rows selected.

```
SQL> CREATE TABLE COLLEGE (
  2 CNAME VARCHAR2(50) NOT NULL,
  3 LOCATION VARCHAR2(15) DEFAULT 'Nagpur' NOT NULL
  4 );
```

Table created.

```
SQL> ALTER TABLE COLLEGE
  2 ADD PRIMARY KEY (CNAME);
```

Table altered.


```
SQL> ALTER TABLE COLLEGE
```

```
2 DROP PRIMARY KEY;
```

Table altered.

```
SQL> ALTER TABLE COLLEGE
```

```
2 ADD CONSTRAINT COLLEGE_PK_CNAME PRIMARY KEY (CNAME);
```

Table altered.

```
SQL> INSERT INTO COLLEGE VALUES(&CNAME,LOCATION);
```

```
SQL> INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION);
```

```
SQL> INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION);
```

Enter value for cname: 'RCOEM'

Enter value for location: 'NAGPUR'

```
old 1: INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION)
```

```
new 1: INSERT INTO COLLEGE VALUES('RCOEM','NAGPUR')
```

1 row created.

```
SQL> /
```

Enter value for cname: 'VJTI'

Enter value for location: 'MUMBAI'

```
old 1: INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION)
```

```
new 1: INSERT INTO COLLEGE VALUES('VJTI','MUMBAI')
```

1 row created.

```
SQL> SELECT * FROM COLLEGE;
```

CNAME	LOCATION
RCOEM	NAGPUR
VJTI	MUMBAI

```
SQL> INSERT INTO COLLEGE (CNAME) VALUES('YCCE');
```

1 row created.

```
SQL> SELECT * FROM COLLEGE;
```

CNAME	LOCATION
RCOEM	NAGPUR
VJTI	MUMBAI
YCCE	Nagpur

```
SQL> TRUNCATE TABLE COLLEGE;
```

Table truncated.

```
SQL> SELECT * FROM COLLEGE;
```

no rows selected

```
SQL> ROLLBACK;
```

Rollback complete.

```
SQL> SELECT * FROM COLLEGE;
```

no rows selected

```
SQL> INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION);
```

Enter value for cname: 'RCOEM'

Enter value for location: 'NAGPUR'

old 1: INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION)

new 1: INSERT INTO COLLEGE VALUES('RCOEM','NAGPUR')

1 row created.

```
SQL> /
```

Enter value for cname: 'VJTI'

Enter value for location: 'MUMBAI'

old 1: INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION)

new 1: INSERT INTO COLLEGE VALUES('VJTI','MUMBAI')

1 row created.

```
SQL> /
```

Enter value for cname: 'SPIT'

Enter value for location: 'MUMBAI'

old 1: INSERT INTO COLLEGE VALUES(&CNAME,&LOCATION)

new 1: INSERT INTO COLLEGE VALUES('SPIT','MUMBAI')

1 row created.

SQL> INSERT INTO COLLEGE(CNAME) VALUE('&CNAME');

Enter value for cname: 'YCCE'

old 1: INSERT INTO COLLEGE(CNAME) VALUE('&CNAME')

SQL> INSERT INTO COLLEGE(CNAME) VALUES(&CNAME);

Enter value for cname: 'YCCE'

old 1: INSERT INTO COLLEGE(CNAME) VALUES(&CNAME)

new 1: INSERT INTO COLLEGE(CNAME) VALUES('YCCE')

1 row created.

SQL> SELECT * FROM COLLEGE;

CNAME	LOCATION
RCOEM	NAGPUR
VJTI	MUMBAI
SPIT	MUMBAI
YCCE	Nagpur

SQL> COMMIT;

Commit complete.

SQL> DESC COLLEGE;

Name	Null?	Type
------	-------	------

CNAME NOT NULL VARCHAR2(50)

LOCATION NOT NULL VARCHAR2(15)

SQL> SET LINESIZE 250;

SQL> SELECT * FROM COURSE CROSS JOIN PARTICIPANT;

CID	CNAME	CREDIT	PID	PNAME	G	CID
101	Database Management Systems	5	1001	Albert DCosta	M	101
101	Database Management Systems	5	1002	Foster Silva	M	102
101	Database Management Systems	5	1003	Maria Anderson	F	102
101	Database Management Systems	5	1004	Pamela Smith	F	101
101	Database Management Systems	5	1005	Indiana Jones	M	
101	Database Management Systems	5	1006	Gaurav Kedia	M	102
101	Database Management Systems	5	1007	CHAITREYA BHELKAR	M	102
102	Object-Oriented Systems	4	1001	Albert DCosta	M	101
102	Object-Oriented Systems	4	1002	Foster Silva	M	102
102	Object-Oriented Systems	4	1003	Maria Anderson	F	102
102	Object-Oriented Systems	4	1004	Pamela Smith	F	101

CID	CNAME	CREDIT	PID	PNAME	G	CID
102	Object-Oriented Systems	4	1005	Indiana Jones	M	
102	Object-Oriented Systems	4	1006	Gaurav Kedia	M	102
102	Object-Oriented Systems	4	1007	CHAITREYA BHELKAR	M	102
103	MATHEMATICS	5	1001	Albert DCosta	M	101
103	MATHEMATICS	5	1002	Foster Silva	M	102
103	MATHEMATICS	5	1003	Maria Anderson	F	102
103	MATHEMATICS	5	1004	Pamela Smith	F	101
103	MATHEMATICS	5	1005	Indiana Jones	M	
103	MATHEMATICS	5	1006	Gaurav Kedia	M	102
103	MATHEMATICS	5	1007	CHAITREYA BHELKAR	M	102

104 MICROCONTROLLER	4	1001 Albert DCosta	M	101
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CID CNAME	CREDIT	PID PNAME	G	CID
-----------	--------	-----------	---	-----

104 MICROCONTROLLER	4	1002 Foster Silva	M	102
104 MICROCONTROLLER	4	1003 Maria Anderson	F	102
104 MICROCONTROLLER	4	1004 Pamela Smith	F	101
104 MICROCONTROLLER	4	1005 Indiana Jones	M	
104 MICROCONTROLLER	4	1006 Gaurav Kedia		M 102
104 MICROCONTROLLER	4	1007 CHAITREYA BHELKAR		M 102
105 MACHINE LEARNING	3	1001 Albert DCosta	M	101
105 MACHINE LEARNING	3	1002 Foster Silva	M	102
105 MACHINE LEARNING	3	1003 Maria Anderson	F	102
105 MACHINE LEARNING	3	1004 Pamela Smith	F	101
105 MACHINE LEARNING	3	1005 Indiana Jones	M	

CID CNAME	CREDIT	PID PNAME	G	CID
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105 MACHINE LEARNING	3	1006 Gaurav Kedia		M 102
105 MACHINE LEARNING	3	1007 CHAITREYA BHELKAR		M 102
106 DSA	4	1001 Albert DCosta	M	101
106 DSA	4	1002 Foster Silva	M	102
106 DSA	4	1003 Maria Anderson	F	102
106 DSA	4	1004 Pamela Smith	F	101
106 DSA	4	1005 Indiana Jones	M	
106 DSA	4	1006 Gaurav Kedia		M 102
106 DSA	4	1007 CHAITREYA BHELKAR		M 102

42 rows selected.

SQL> SELECT * FROM COURSE,PARTICIPANT;

CID	CNAME	CREDIT	PID	PNAME	G	CID
101	Database Management Systems	5	1001	Albert DCosta	M	101
101	Database Management Systems	5	1002	Foster Silva	M	102
101	Database Management Systems	5	1003	Maria Anderson	F	102
101	Database Management Systems	5	1004	Pamela Smith	F	101
101	Database Management Systems	5	1005	Indiana Jones	M	
101	Database Management Systems	5	1006	Gaurav Kedia	M	102
101	Database Management Systems	5	1007	CHAITREYA BHELKAR	M	102
102	Object-Oriented Systems	4	1001	Albert DCosta	M	101
102	Object-Oriented Systems	4	1002	Foster Silva	M	102
102	Object-Oriented Systems	4	1003	Maria Anderson	F	102
102	Object-Oriented Systems	4	1004	Pamela Smith	F	101

CID	CNAME	CREDIT	PID	PNAME	G	CID
102	Object-Oriented Systems	4	1005	Indiana Jones	M	
102	Object-Oriented Systems	4	1006	Gaurav Kedia	M	102
102	Object-Oriented Systems	4	1007	CHAITREYA BHELKAR	M	102
103	MATHEMATICS	5	1001	Albert DCosta	M	101
103	MATHEMATICS	5	1002	Foster Silva	M	102
103	MATHEMATICS	5	1003	Maria Anderson	F	102
103	MATHEMATICS	5	1004	Pamela Smith	F	101
103	MATHEMATICS	5	1005	Indiana Jones	M	
103	MATHEMATICS	5	1006	Gaurav Kedia	M	102
103	MATHEMATICS	5	1007	CHAITREYA BHELKAR	M	102
104	MICROCONTROLLER	4	1001	Albert DCosta	M	101

CID	CNAME	CREDIT	PID	PNAME	G	CID
-----	-------	--------	-----	-------	---	-----

104 MICROCONTROLLER	4	1002 Foster Silva	M	102
104 MICROCONTROLLER	4	1003 Maria Anderson	F	102
104 MICROCONTROLLER	4	1004 Pamela Smith	F	101
104 MICROCONTROLLER	4	1005 Indiana Jones	M	
104 MICROCONTROLLER	4	1006 Gaurav Kedia	M	102
104 MICROCONTROLLER	4	1007 CHAITREYA BHELKAR	M	102
105 MACHINE LEARNING	3	1001 Albert DCosta	M	101
105 MACHINE LEARNING	3	1002 Foster Silva	M	102
105 MACHINE LEARNING	3	1003 Maria Anderson	F	102
105 MACHINE LEARNING	3	1004 Pamela Smith	F	101
105 MACHINE LEARNING	3	1005 Indiana Jones	M	

CID	CNAME	CREDIT	PID	PNAME	G	CID
105	MACHINE LEARNING	3	1006	Gaurav Kedia	M	102
105	MACHINE LEARNING	3	1007	CHAITREYA BHELKAR	M	102
106	DSA	4	1001	Albert DCosta	M	101
106	DSA	4	1002	Foster Silva	M	102
106	DSA	4	1003	Maria Anderson	F	102
106	DSA	4	1004	Pamela Smith	F	101
106	DSA	4	1005	Indiana Jones	M	
106	DSA	4	1006	Gaurav Kedia	M	102
106	DSA	4	1007	CHAITREYA BHELKAR	M	102

42 rows selected.

SQL> SELECT * FROM TAB;

TNAME	TABTYPE	CLUSTERID
COLLEGE	TABLE	
COURSE	TABLE	

PARTICIPANT TABLE

SQL> RENAME COURSE TO SUBJECT;

Table renamed.

SQL> SELECT * FROM TAB;

TNAME	TABTYPE
CLUSTERID	

COLLEGE	TABLE
---------	-------

PARTICIPANT	TABLE
-------------	-------

SUBJECT	TABLE
---------	-------

SQL> RENAME SUBJECT TO COURSE;

Table renamed.

SQL> SELECT * FROM TAB;

TNAME	TABTYPE	CLUSTERID
CLUSTERID		

COLLEGE	TABLE
---------	-------

COURSE	TABLE
--------	-------

PARTICIPANT	TABLE
-------------	-------

SQL> COMMIT;

Commit complete.

SQL> DESC DUAL;

Name	Null?	Type

DUMMY
VARCHAR2(1)

SQL> SELECT * FROM DUAL;

D

-

X

```
SQL> SELECT SQRT(9) FROM DUAL;
```

SQRT(9)

3

```
SQL> SELECT ABS(-5) FROM DUAL;
```

ABS(-5)

5

```
SQL> SELECT SQRT(9),ABS(-5) FROM DUAL;
```

SQRT(9) ABS(-5)

3 5

```
SQL> SELECT SYSDATE FROM DUAL;
```

SYSDATE

16-SEP-22

```
SQL> SELECT SYSTIMESTAMP FROM DUAL;
```

SYSTIMESTAMP

-

16-SEP-22 11.58.08.037000 AM
+05:30

```
SQL> COMMIT;
```

Commit complete.

SQL> SPOOL OFF;

SQL> SELECT * FROM COURSE;

CID	CNAME	CREDIT
101	DATABASE MANAGEMENT SYSTEMS	5
102	OBJECT ORIENTED PROGRAMMING	5
103	OPERATING SYSTEM	4

SQL> select * from PARTICIPANT;

PID	PNAME	G	CID
1001	Albert DCosta	M	
1002	Foster Silva	M	102
1003	Maria Anderson	F	102
1004	Pamela Smith	F	101
1005	Indiana Jones	M	
1006	Martinez Wales	F	103

6 rows selected.

Q.1) DISPLAY DETAILS OF EVERY MALE PARTICIPANT.

SQL> SELECT * FROM PARTICIPANT

2 WHERE GENDER='M';

PID	PNAME	G	CID
1001	Albert DCosta	M	101
1002	Foster Silva	M	102
1005	Indiana Jones	M	

Q.2) DISPLAY DETAILS OF EVERY MALE PARTICIPANT IN THE INCREASING ORDER OF THEIR COURSE ID.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE GENDER='M'
```

```
3 ORDER BY CID;
```

PID PNAME	G	CID
1001 Albert DCosta	M	101
1002 Foster Silva	M	102
1005 Indiana Jones	M	

Q.3) DISPLAY THE DETAILS OF THOSE PARTICIPANTS WHOSE COURSE ID IS NULL.

```
SELECT * FROM PARTICIPANT
```

```
2 WHERE CID IS NULL;
```

PID PNAME	G	CID
1005 Indiana Jones	M	

Q.4) DISPLAY DETAILS OF THOSE PARTICIPANTS WHOSE COURSE ID IN NOT NULL.

```
SQL> SELECT * FROM PARTICIPANT
```

```
2 WHERE CID IS NOT NULL;
```

PID PNAME	G	CID
1001 Albert DCosta	M	101
1002 Foster Silva	M	102
1003 Maria Anderson	F	102
1004 Pamela Smith	F	101
1006 Martinez Wales	F	103

Q.5) DISPLAY DETAILS OF THOSE COURSES WHOSE CREDIT IS GREATER THAN 3.

```
SQL> SELECT * FROM COURSE
```

```
2 WHERE CREDIT>3;
```

CID	CNAME	CREDIT
101	DATABASE MANAGEMENT SYSTEMS	5
102	OBJECT ORIENTED PROGRAMMING	5
103	OPERATING SYSTEM	4

Q.6) DISPLAY DETAILS OF THOSE COURSES WHOSE NAME STARTS WITH LETTER D.

```
SQL> SELECT * FROM COURSE
```

```
2 WHERE CNAME LIKE 'D_%';
```

CID	CNAME	CREDIT
101	DATABASE MANAGEMENT SYSTEMS	5

Q.7) DISPLAY DETAILS OF THOSE COURSES WHOSE NAME'S SECOND LETTER IS A.

```
SQL> SELECT * FROM COURSE
```

```
2 WHERE CNAME LIKE '_A%';
```

CID	CNAME	CREDIT
101	DATABASE MANAGEMENT SYSTEMS	5

Q.8) DISPLAY CID, CNAME, PID, PNAME OF ALL PARTICIPANTS WHO ENROLLED IN DBMS COURSE.

```
SQL> SELECT COURSE.CID,CNAME,PID FROM COURSE,PARTICIPANT
```

```
2 WHERE CNAME LIKE 'DATABASE MANAGEMENT SYSTEMS';
```

CID CNAME	PID

101 DATABASE MANAGEMENT SYSTEMS	1001
101 DATABASE MANAGEMENT SYSTEMS	1002
101 DATABASE MANAGEMENT SYSTEMS	1003
101 DATABASE MANAGEMENT SYSTEMS	1004
101 DATABASE MANAGEMENT SYSTEMS	1005
101 DATABASE MANAGEMENT SYSTEMS	1006

6 rows selected.

SQL> SPOOL OFF;