

```
=====

CREATE TABLE STUDENT18(
  2  STUD_NO VARCHAR2(9) PRIMARY KEY,
  3  LNAME VARCHAR2(15),
  4  FNAME VARCHAR2(20),
  5  ADDRESS VARCHAR2(50),
  6  CITY VARCHAR2(30),
  7  STATE VARCHAR2(2),
  8  PINCODE VARCHAR2(9));
```

Table created.

```
SQL> DESCRIBE STUDENT18
```

Name	Null?	Type
STUD_NO	NOT NULL	VARCHAR2(9)
LNAME		VARCHAR2(15)
FNAME		VARCHAR2(20)
ADDRESS		VARCHAR2(50)
CITY		VARCHAR2(30)
STATE		VARCHAR2(2)
PINCODE		VARCHAR2(9)

```
=====
```

```
CREATE TABLE INSTRUCTOR18(
INSTRUCTORID VARCHAR2(5) PRIMARY KEY,
LNAME VARCHAR2(30),
FNAME VARCHAR2(20),
PNUMBER VARCHAR2(20));
```

```
DESCRIBE INSTRUCTOR18;
```

Name	Null?	Type
INSTRUCTORID	NOT NULL	VARCHAR2(5)
LNAME		VARCHAR2(30)
FNAME		VARCHAR2(20)
PNUMBER		VARCHAR2(20)

```
=====
```

```
CREATE TABLE COURSE18(
COURSECODE VARCHAR2(6) PRIMARY KEY,
COURSETITLE VARCHAR2(25),
COURSEHOURS NUMBER(2,0));
```

```
SQL> DESCRIBE COURSE18
```

Name	Null?	Type
COURSECODE	NOT NULL	VARCHAR2(6)
COURSETITLE		VARCHAR2(25)

COURSEHOURS

NUMBER(2)

```

=====

CREATE TABLE SECTION18(
SECTIONID VARCHAR2(7),
TIMEOFFERED VARCHAR2(10),
DATEOFFERED VARCHAR2(10),
ROOM VARCHAR2(8),
CSIZE NUMBER(3,0) CHECK(CSIZE>=0),
ENROLLED NUMBER(3,0) CHECK(ENROLLED>=0),
INSTRUCTORID VARCHAR2(5),
COURSECODE VARCHAR2(6),
FOREIGN KEY(INSTRUCTORID) REFERENCES INSTRUCTOR18,
FOREIGN KEY(COURSECODE) REFERENCES COURSE18,
PRIMARY KEY(TIMEOFFERED,SECTIONID));

```

SQL&gt; DESCRIBE SECTION18

Name	Null?	Type
SECTIONID	NOT NULL	VARCHAR2(7)
TIMEOFFERED	NOT NULL	VARCHAR2(10)
DATEOFFERED		VARCHAR2(10)
ROOM		VARCHAR2(8)
CSIZE		NUMBER(3)
ENROLLED		NUMBER(3)
INSTRUCTORID		VARCHAR2(5)
COURSECODE		VARCHAR2(6)

```

=====

CREATE TABLE ENROLLMENT18(
STUD_NO VARCHAR2(9) REFERENCES STUDENT18,
SECTIONID VARCHAR2(7),
GRADE VARCHAR2(2),
TIMEOFFERED VARCHAR2(10),
PRIMARY KEY(STUD_NO,SECTIONID),
CONSTRAINT FOR_KEY FOREIGN KEY(TIMEOFFERED,SECTIONID) REFERENCES SECTION18);

```

```

=====
=====
INSERTING VALUES
=====
=====

```

```

INSERT INTO STUDENT18 VALUES('&STUD_NO','&LNAME','&FNAME','&ADDRESS','&CITY','&STATE','&PINCODE');

```

STUD_NO	LNAME	FNAME	ADDRESS
CITY	ST	PINCODE	

001	JOHN	DOE	FEDERAL CITY
		KL 683571	

KOCHI

002	JANE	DOE	SSF APATMENTS	KOCHI
003	MISHA	KL 683544 ABRAHAM	ABC RESIDENTS	KOCHI
004	MOHAMMED	KL 696664 FARHAN	FACT GARDENS	KOCHI
005	MRIDULA	KL 683501 AGNES	MALIEKAL	ALUVA
		KL 683102		

```
INSERT INTO ENROLLMENT18 VALUES('&STUD_NO','&SECTIONID','&GRADE','&TIMEOFFERED')
SELECT * FROM ENROLLMENT18;
```

STUD_NO	SECTION	GR	TIMEOFFERE
001	S005	A	1-5
002	S003	B	2-4
003	S001	C	2-3
004	S001	C	2-3
005	S004	B	3-5

```
INSERT INTO SECTION18 VALUES
('&SECTIONID','&TIMEOFFERED','&DATEOFFERED','&ROOM','&CSIZE','&ENROLLED','&INSTRUCTORID','&COURSECODE')
SELECT * FROM SECTION18;
```

SECTION	TIMEOFFERE	DATEOFFERE	ROOM	CSIZE	ENROLLED	INSTR	COURSE
S001	2-3	MTWT	R101	60	25	I005	C004
S002	2-4	MWTF	R102	50	28	I003	C002
S003	2-4	MFSS	R103	60	35	I002	C001
S004	3-5	MSS	R104	40	24	I001	C005
S005	1-5	MTTFS	R105	55	48	I004	C003

```
SELECT * FROM EMPLOYEE18;
```

EMPN	NAME	DESIGNATIO	BRANCH	DEPT_NO
E001	Ram	Manager	Madras	2
E002	Santhosh	Supervisor	Madurai	1
E003	Hari	Assistant	Trichy	3
E004	Maria	Supervisor	Madurai	3
E005	Sandeep	Supervisor	Salem	4

```
SELECT * FROM COURSE18
2 ;
```

COURSE	COURSETITLE	COURSEHOURS
C001	DATABASE	40
C002	UNIX	30
C003	PYTHON	28
C004	JAVA	35
C005	ANDROID	38

## =====

1.  
 SQL> ALTER TABLE ENROLLMENT18  
       2 MODIFY GRADE VARCHAR2(5);

Table altered.

SQL> describe enrollment18;

Name	Null?	Type
STUD_NO	NOT NULL	VARCHAR2(9)
SECTIONID	NOT NULL	VARCHAR2(7)
GRADE		VARCHAR2(5)
TIMEOFFERED		VARCHAR2(10)

=====

2.  
 SQL> ALTER TABLE INSTRUCTOR18 ADD MAILID VARCHAR2(15);

Table altered.

SQL> describe instructor18;

Name	Null?	Type
INSTRUCTORID	NOT NULL	VARCHAR2(5)
LNAME		VARCHAR2(30)
FNAME		VARCHAR2(20)
PNUMBER		VARCHAR2(20)
MAILID		VARCHAR2(15)

=====

3.  
 SQL> INSERT INTO STUDENT18 VALUES('222','MOHAMMED','FARHAN','FACT GARDENS','ALUVA','KL','683585');

1 row created.

Commit complete.

SQL> select \* from student18;

STUD_NO CITY	LNAME	FNAME ST PINCODE	ADDRESS	
001	JOHN	DOE KL 683571	FEDERAL CITY	KOCHI
002	JANE	DOE KL 683544	SSF APATMENTS	KOCHI
003	MISHA	ABRAHAM KL 696664	ABC RESIDENTS	KOCHI
004	MOHAMMED	FARHAN KL 683501	FACT GARDENS	KOCHI
005	MRIDULA	AGNES KL 683102	MALIEKAL	ALUVA
222	MOHAMMED	FARHAN KL 683585	FACT GARDENS	ALUVA

6 rows selected.

4.  
 SQL> INSERT INTO COURSE18 VALUES('C550','WEB DESIGN',5);

1 row created.

Commit complete.

SQL> select \* from course18;

COURSE	COURSE TITLE	COURSE HOURS
C001	DATABASE	40
C002	UNIX	30
C003	PYTHON	28
C004	JAVA	35
C005	ANDROID	38
C550	WEB DESIGN	5

5

SQL> INSERT INTO INSTRUCTOR18 VALUES('I111','SANJAY','MOHAN','0115566789','SANJAY@MAIL.COM');

1 row created.

Commit complete.

SQL> select \* from instructor18;

STUD_NO	SECTION	GRADE	TIME OFFERED
001	S005	A	1-5
002	S003	B	2-4
003	S001	C	2-3
004	S001	C	2-3
005	S004	B	3-5
222	S255	NULL	2-4

6 rows selected.

SQL> INSERT INTO SECTION18 VALUES('S255','2-4','MW','R102',35,0,'I111','C550');

1 row created.

Commit complete.

SQL> select \* from section18;

SECTION	TIME OFFERED	DATE OFFERED	ROOM	C SIZE	ENROLLED	INSTR	COURSE
S001	2-3	MTWT	R101	60	25	I005	C004
S002	2-4	MWTF	R102	50	28	I003	C002
S003	2-4	MFSS	R103	60	35	I002	C001
S004	3-5	MSS	R104	40	24	I001	C005
S005	1-5	MTTFS	R105	55	48	I004	C003
S255	2-4	MW	R102	35	0	I111	C550

6 rows selected.

6

SQL> INSERT INTO ENROLLMENT18 VALUES('222','S255','NULL','2-4');

1 row created.

Commit complete.

SQL> select \* from enrollment18;

STUD_NO	SECTION	GRADE	TIME OFFERED
001	S005	A	1-5
002	S003	B	2-4

```

003      S001      C      2-3
004      S001      C      2-3
005      S004      B      3-5
222      S255      NULL  2-4

```

6 rows selected.

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```

SQL> create sequence sequence1
increment by 1
start with 1
maxvalue 10
minvalue 1
order;

```

```

      2      3      4      5      6
Sequence created.

```

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```

CREATE VIEW INSTRUCTOR_SECTION_VIEW AS
SELECT LNAME, FNAME, TIMEOFFERED, DATEOFFERED, COURSE18.COURSECODE, COURSETITLE
FROM SECTION18, COURSE18, INSTRUCTOR18
WHERE (SECTION18.COURSECODE = COURSE18.COURSECODE AND SECTION18.INSTRUCTORID = INSTRUCTOR18.INSTRUCTORID);

```

View created.

```
SQL> SELECT * FROM INSTRUCTOR_SECTION_VIEW;
```

LNAME	FNAME	TIMEOFFERE	DATEOFFERE	COURSE	COURSETITLE
PETER	ADAMS	3-5	MSS	C005	ANDROID
JOHNNY	ENGLISH	2-4	MFSS	C001	DATABASE
TOM	CRUISE	2-4	MWTF	C002	UNIX
STEVE	JOBS	1-5	MTTFS	C003	PYTHON
BILL	GATES	2-3	MTWT	C004	JAVA
SANJAY	MOHAN	2-4	MW	C550	WEB DESIGN

6 rows selected.

15

```
SQL> UPDATE SECTION18 SET CSIZE = CSIZE + (0.10 * CSIZE);
```

6 rows updated.

Commit complete.

```
SQL> SELECT * FROM SECTION18;
```

SECTION	TIMEOFFERE	DATEOFFERE	ROOM	CSIZE	ENROLLED	INSTR	COURSE
S001	2-3	MTWT	R101	66	25	I005	C004
S002	2-4	MWTF	R102	55	28	I003	C002
S003	2-4	MFSS	R103	66	35	I002	C001
S004	3-5	MSS	R104	44	24	I001	C005
S005	1-5	MTTFS	R105	61	48	I004	C003
S255	2-4	MW	R102	39	0	I111	C550

6 rows selected.

=====

19-08-2015

=====

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```
SQL> UPDATE SECTION18 SET TIMEOFFERED = '2-4',DATEOFFERED ='MW' WHERE SECTIONID = 'S255'
2 ;
```

1 row updated.

17.

Reinserted

```
INSERT INTO ENROLLMENT18 VALUES('&STUD_NO','&SECTIONID','&GRADE','&TIMEOFFERED')
```

```
SQL> DELETE FROM ENROLLMENT18 WHERE SECTIONID = 'S002';
```

1 row deleted.

```
SQL> DELETE FROM SECTION18 WHERE SECTIONID = 'S002';
```

1 row deleted.

18.

```
SQL> DELETE FROM COURSE18
```

```
2 WHERE COURSECODE = 'C001';
```

```
DELETE FROM COURSE18
```

\*

ERROR at line 1:

ORA-02292: integrity constraint (CS42813.SYS\_C0026499) violated - child record found

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```
SQL> CREATE INDEX INDEX1 ON SECTION18(INSTRUCTORID);
```

Index created.

```
SQL> CREATE INDEX INDEX2 ON SECTION18(COURSECODE);
```

Index created.

```
SQL> CREATE INDEX INDEX3 ON ENROLLMENT18(SECTIONID);
```

Index created.

```
SQL> CREATE INDEX INDEX4 ON ENROLLMENT18(TIMEOFFERED);
```

Index created.

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```
SQL> SELECT SECTIONID,TIMEOFFERED,DATEOFFERED,COURSECODE
FROM SECTION18
WHERE CSIZE BETWEEN 60 AND 70
AND DATEOFFERED LIKE '%S%';
```

2	3	4	
SECTION	TIMEOFFERE	DATEOFFERE	COURSE
S003	2-4	MFSS	C001
S005	1-5	MTTFS	C003

21

```
SQL> SELECT COURSECODE,COURSETITLE,COURSEHOURS
FROM COURSE18
```

WHERE COURSEHOURS = 40 ORDER BY COURSECODE DESC;

2	3	
COURSE	COURSETITLE	COURSEHOURS
C001	DATABASE	40

22  
SQL> SELECT INSTRUCTORID, SUM(CSIZE)  
FROM SECTION18  
GROUP BY INSTRUCTORID ORDER BY SUM(CSIZE); 2 3

INSTR SUM(CSIZE)

I111	39
I001	44
I004	61
I005	66
I002	66

23  
SQL> SELECT STUD\_NO,SECTIONID,GRADE  
FROM ENROLLMENT18  
WHERE GRADE LIKE 'B%'; 2 3

STUD_NO	SECTION	GRADE
002	S003	B
005	S004	B

24  
SQL> SELECT SECTION18.COURSECODE,AVG(CSIZE)  
FROM SECTION18,COURSE18  
WHERE (SECTION18.COURSECODE=COURSE18.COURSECODE)  
GROUP BY SECTION18.COURSECODE  
2 3 4 5 ;

COURSE AVG(CSIZE)

C001	66
C003	61
C004	66
C005	44
C550	39

25  
SQL> SELECT INSTRUCTOR18.LNAME,SECTION18.TIMEOFFERED,SECTION18.DATEOFFERED,SECTION18.ROOM FROM  
INSTRUCTOR18,SECTION18 WHERE INSTRUCTOR18.INSTRUCTORID = SECTION18.INSTRUCTORID  
2 ;

LNAME	TIMEOFFERE	DATEOFFERE	ROOM
PETER	3-5	MSS	R104
JOHNNY	2-4	MFSS	R103
STEVE	1-5	MTTFS	R105
BILL	2-3	MTWT	R101
SANJAY	2-4	MW	R102

26.  
SQL> SELECT STUD\_NO,FNAME,LNAME  
FROM STUDENT18  
WHERE (STUD\_NO NOT IN (SELECT STUD\_NO FROM ENROLLMENT18));  
2 3

STUD_NO	FNAME	LNAME
S007	DOE	JOHN



=====