```
SQL> @Z:/Ex04_commands.sql
SQL> REM 1. Create a view named Blue_Flavor, which display the product details (product id,
SQL> REM    food, price) of Blueberry flavor.
SQL>
SQL> create view Blue_flavor as (
  2  select pid, food, price
  3  from products
  4  where flavor = 'Blueberry');

View created.

SQL>
SQL> select * from Blue_flavor;

PID           FOOD                 PRICE
------------- -------------------- ----------
90-BLU-11      Tart                  3.25
51-BLU         Danish                1.15

SQL> select COLUMN_NAME, UPDATABLE from USER_UPDATABLE_COLUMNS where
table_name = 'BLUE_FLAVOR';

COLUMN_NAME                    UPD
-----------------------------------------------
PID                            YES
FOOD                           YES
PRICE                          YES

SQL>
SQL> REM : Checking whether it is upadteble or not
SQL> insert into products values('74-A99C-7U','Blueberry','Icecream',2.34);

1 row created.

SQL> select * from Blue_flavor;

PID               FOOD            PRICE
------------- -------------------- ----------
90-BLU-11      Tart                  3.25
51-BLU         Danish                1.15
74-A99C-7U     Icecream              2.34

SQL>
```

```
SQL> update Blue_flavor
  2  set price = price+2
  3  where food = 'Tart';

1 row updated.

SQL>
SQL> REM : upadte successful
SQL> select * from Blue_flavor;

PID             FOOD               PRICE
--------------- ------------------- ----------
90-BLU-11       Tart                 5.25
51-BLU          Danish               1.15
74-A99C-7U      Icecream             2.34

SQL>
SQL> delete from Blue_flavor
  2  where pid = '74-A99C-7U';

1 row deleted.

SQL>
SQL>
SQL>
SQL> REM 2. Create a view named Cheap_Food, which display the details (product id, flavor,
SQL> REM    food, price) of products with price lesser than $1. Ensure that, the price of these
SQL> REM    food(s) should never rise above $1 through view.
SQL>
SQL>
SQL> create view cheap_food as (
  2  select pid, flavor, food, price
  3  from products
  4  where price < 1)
  5  with check option;

View created.

SQL>
SQL> select * from products values('88-DFG-9I','Mango','Pie',0.98)
  2
SQL> insert into cheap_food values('74-AC-7U','Apple','icecream',1);
insert into cheap_food values('74-AC-7U','Apple','icecream',1)
            *
ERROR at line 1:
ORA-01402: view WITH CHECK OPTION where-clause violation
```

```
SQL> insert into cheap_food values('74-AC-7U','Apple','icecream',0.99);

1 row created.

SQL>
SQL> select * from cheap_food;

PID             FLAVOR             FOOD               PRICE
--------------- ------------------ ------------------ ----------
70-LEM          Lemon              Cookie                .79
70-W            Walnut             Cookie                .79
74-AC-7U        Apple              icecream              .99

SQL>
SQL> update cheap_food
  2  set price = price+2
  3  where food = 'icecream';
update cheap_food
       *
ERROR at line 1:
ORA-01402: view WITH CHECK OPTION where-clause violation
SQL>
SQL> update cheap_food
  2  set price = price-0.5
  3  where food = 'icecream';

1 row updated.

SQL>
SQL>
SQL> select * from cheap_food;

PID             FLAVOR             FOOD               PRICE
--------------- ------------------ ------------------ ----------
70-LEM          Lemon              Cookie                .79
70-W            Walnut             Cookie                .79
74-AC-7U        Apple              icecream              .49

SQL>
SQL>
SQL> delete from cheap_food
  2  where food = 'icecream';

1 row deleted.

SQL>
```

```
SQL> select * from cheap_food;

PID            FLAVOR             FOOD               PRICE
-------------- ------------------ ------------------ ----------
70-LEM         Lemon              Cookie                .79
70-W           Walnut             Cookie                .79

SQL>
SQL> select COLUMN_NAME, UPDATABLE from USER_UPDATABLE_COLUMNS where
table_name = 'CHEAP_FOOD';

COLUMN_NAME      UPD
------------------------------ ---
PID                            YES
FLAVOR                         YES
FOOD                           YES
PRICE                          YES

SQL>
SQL>
SQL> REM 3. Create a view called Hot_Food that show the product id and its quantity where the
SQL> REM    same product is ordered more than once in the same receipt.
SQL> create view hot_food as (
  2  select i.item, count(*) as quantity
  3  from item_list i join receipts r on i.rno = r.rno
  4  where i.item = any(select i2.item
  5                     from item_list i2
  6                                    where i2.rno=i.rno
  7                                    group by i2.item
  8                                    having count(*)>1)
  9  group by i.item);

View created.
```

```
SQL> select * from hot_food;

ITEM          COUNT
--------------- ----------
70-R                   2
90-APR-PF              2
50-APP                 2
51-ATW                 2
90-ALM-I               2
90-BER-11              2
90-PEC-11              2
70-M-CH-DZ             2
46-11                  2
70-M-CH-DZ             2
90-CHR-11              2

ITEM          COUNT
--------------- ----------
90-BLU-11              2
50-CHS                 2
70-M-CH-DZ             2
70-R                   2
90-APP-11              2
70-MAR                 2
50-APR                 2
51-BC                  2
50-ALM                 2

SQL> select COLUMN_NAME, UPDATABLE from USER_UPDATABLE_COLUMNS where
table_name = 'HOT_FOOD';

COLUMN_NAME                    UPD
------------------------------ ---
ITEM                           NO
QUANTITY                       NO

SQL>
SQL>insert into item_list values(67341, 7,'51-BLU');

1 row created.
```

```
SQL> select * from hot_food;

ITEM               COUNT
-------------- ----------
70-R                    2
90-APR-PF               2
50-APP                  2
51-ATW                  2
90-ALM-I                2
90-BER-11               2
90-PEC-11               2
70-M-CH-DZ              2
46-11                   2
70-M-CH-DZ              2
90-CHR-11               2

ITEM               COUNT
-------------- ----------
90-BLU-11               2
50-CHS                  2
70-M-CH-DZ              2
70-R                    2
90-APP-11               2
51-BLU                  2
50-APR                  2
51-BC                   2
50-ALM                  2

SQL>
SQL> delete from hot_food
  2  where item = 'A-B-c';
delete from hot_food
           *
ERROR at line 1:
ORA-01732: data manipulation operation not legal on this view


SQL>
SQL> update hot_food
  2  set quantity = quantity+2
  3  where item = '46-11';
update hot_food
       *
ERROR at line 1:
ORA-01732: data manipulation operation not legal on this view
```

```
SQL>
SQL>
SQL> REM 4. Create a view named Pie_Food that will display the details (customer lname, flavor,
SQL> REM    receipt number and date, ordinal) who had ordered the Pie food with receipt details.
SQL> create view pie_food as (
  2  select c.lname,p.flavor,r.rno,r.r_date, i.ordinal
  3  from customers c join receipts r on r.cid = c.cid join item_list i on i.rno = r.rno join products p
on p.pid = i.item
  4  where p.food = 'Pie');

View created.

SQL>
SQL> select * from pie_food;

LNAME            FLAVOR              RNO RDATE       ORDINAL
---------------- --------------- ---------- --------- ----------
SOPKO            Apple            51991 17-OCT-07         1
CRUZEN           Apple            44798 04-OCT-07         3
SOPKO            Apple            29226 26-OCT-07         2
LOGAN            Apple            66227 10-OCT-07         2
HELING           Apple            53376 30-OCT-07         3
LOGAN            Apple            39685 28-OCT-07         4
HAFFERKAMP       Apple            50660 18-OCT-07         2
CRUZEN           Apple            39109 02-OCT-07         1
MESDAQ           Apple            98806 15-OCT-07         3
SLINGLAND        Apple            47353 12-OCT-07         2
SLINGLAND        Apple            87454 21-OCT-07         1

LNAME            FLAVOR              RNO RDATE       ORDINAL
---------------- --------------- ---------- --------- ----------
ESPOSITA         Apple            48647 09-OCT-07         2
ARNN             Apple            11548 21-OCT-07         2

SQL> select COLUMN_NAME, UPDATABLE from USER_UPDATABLE_COLUMNS where
table_name = 'PIE_FOOD';

COLUMN_NAME      UPD
------------------------------ ---
LNAME                          NO
FLAVOR                         NO
RNO                            NO
R_DATE                         NO
ORDINAL                        YES

SQL>
SQL> insert into pie_food values('praven','berry',6483,'20-Jan-2005',7);
```

```
insert into pie_food values('praven','berry',6483,'20-Jan-2005',7)
*
ERROR at line 1:
ORA-01779: cannot modify a column which maps to a non key-preserved table

SQL> insert into Customers
  2  values(114,'Praveen','Kumar');

1 row created.

SQL> insert into item_list
  2  values(50660, 7,  '70-W');

1 row created.

SQL> delete from pie_food
  2  where flavor = 'berry';

SQL> select * from Pie_Food;

LNAME           FLAVOR            RNO RDATE      ORDINAL
--------------- --------------- ---------- --------- ----------
SOPKO           Apple            51991 17-OCT-07         1
CRUZEN          Apple            44798 04-OCT-07         3
SOPKO           Apple            29226 26-OCT-07         2
LOGAN           Apple            66227 10-OCT-07         2
HELING          Apple            53376 30-OCT-07         3
LOGAN           Apple            39685 28-OCT-07         4
HAFFERKAMP      Apple            50660 18-OCT-07         2
CRUZEN          Apple            39109 02-OCT-07         1
MESDAQ          Apple            98806 15-OCT-07         3
SLINGLAND       Apple            47353 12-OCT-07         2
SLINGLAND       Apple            87454 21-OCT-07         1

LNAME           FLAVOR            RNO RDATE      ORDINAL
--------------- --------------- ---------- --------- ----------
ESPOSITA        Apple            48647 09-OCT-07         2
ARNN            Apple            11548 21-OCT-07         2

13 rows selected.

SQL>
```

```
SQL> REM 5. Create a view Cheap_View from Cheap_Food that shows only the product id,
flavor
SQL> REM    and food.
SQL>
SQL> create view cheap_view as (
  2  select pid , flavor, food
  3  from cheap_food );

View created.

SQL>
SQL> select * from cheap_view;

PID             FLAVOR              FOOD
--------------- ------------------- --------------------
70-LEM          Lemon               Cookie
70-W            Walnut              Cookie

SQL> select COLUMN_NAME, UPDATABLE from USER_UPDATABLE_COLUMNS where
table_name = 'CHEAP_VIEW';

COLUMN_NAME        UPD
------------------------------ ---
PID                            YES
FLAVOR                         YES
FOOD                           YES

SQL>
SQL> insert into cheap_food values('Ac-RD-HG','gum','fondant',0.65);

1 row created.

SQL>
SQL> update cheap_view
  2  set flavor = 'grapes'
  3  where flavor = 'gum';

1 row updated.

SQL>
```

```
SQL> select * from cheap_food;

PID           FLAVOR             FOOD               PRICE
------------- ------------------ ------------------ ----------
70-LEM        Lemon              Cookie               .79
70-W          Walnut             Cookie               .79
Ac-RD-HG      grapes             fondant              .65

3 row created.
SQL>
SQL> delete from cheap_food
  2  where pid= 'Ac-RD-HG';

1 row deleted.

SQL> select * from cheap_food;

PID           FLAVOR             FOOD               PRICE
------------- ------------------ ------------------ ----------
70-LEM        Lemon              Cookie               .79
70-W          Walnut             Cookie               .79

2 row created.
SQL>
SQL>
SQL>
SQL> REM 6. Create a sequence named Ordinal_No_Seq which generates the ordinal number
SQL> REM    starting from 1, increment by 1, to a maximum of 10. Include the options of cycle,
SQL> REM    cache and order. Use this sequence to populate the item_list table for a new order.
SQL>
SQL> insert into receipts values(00001, '31-Oct-2007', 17);

1 row created.

SQL> create sequence s
  2  start with 1
  3  increment by 1
  4  minvalue 1
  5  maxvalue 10
  6  nocycle
  7  order
  8  cache 10;

Sequence created.

SQL>
```

```
SQL> insert into item_list values(00001, s.nextval,  '45-CO');

1 row created.

SQL> insert into item_list values(00001, s.nextval,  '90-APR-PF');

1 row created.

SQL> insert into item_list values(00001, s.nextval,  '50-CHS');

1 row created.

SQL> insert into item_list values(00001, s.nextval,  '50-APP');

1 row created.

SQL> insert into item_list values(00001, s.nextval,  '70-R');

1 row created.

SQL>
SQL> select * from receipts
  2  where rno = 00001;

      RNO R_DATE          CID
---------- --------- ----------
         1 31-OCT-07         17

SQL>
SQL> select * from item_list
  2  where rno = 00001
  3  order by rno;

      RNO    ORDINAL ITEM
---------- ---------- --------------------
         1          1 45-CO
         1          2 90-APR-PF
         1          3 50-CHS
         1          4 50-APP
         1          5 70-R

SQL>
```

```
SQL> REM 7. Create a synonym named Product_details for the item_list relation. Perform the
SQL> REM    DML operations on it.
SQL>
SQL> create synonym product_details
  2  for item_list;

Synonym created.

SQL>
SQL> select *
  2  from product_details
  3  where item =  '90-APR-PF';

      RNO    ORDINAL ITEM
---------- ---------- --------------------
    83085          3 90-APR-PF
    27741          3 90-APR-PF
    95962          1 90-APR-PF
    44798          1 90-APR-PF
    21162          3 90-APR-PF
    82795          1 90-APR-PF
    37636          1 90-APR-PF
    86085          3 90-APR-PF
        1          2 90-APR-PF

9 rows selected.

SQL>
SQL> insert into product_details values(insert into item_list values(91937, 8,       '51-BC');

1 row created.


SQL>
SQL> update product_details
  2  set ordinal = ordinal+1
  3  where rno=91937 and ordinal = 8;
1 rows updated.

SQL>
SQL> select * from item_list
  2  where rno = 91937;

      RNO    ORDINAL ITEM
---------- ---------- --------------------
    91937          1 51-BC
    91937          2 51-APR
```

```
    91937         9 51-BC

SQL>
SQL> delete from product_details
  2  where rno = 91937 and ordinal = 8;

1 rows deleted.

SQL>
SQL>
SQL>
SQL> REM 8. Drop all the above created database objects.
SQL>
SQL> drop view Blue_flavor;

View dropped.

SQL> drop view cheap_view;

View dropped.

SQL> drop view hot_food;

View dropped.

SQL> drop view pie_food;

View dropped.

SQL> drop view cheap_food;

View dropped.

SQL> drop sequence s;

Sequence dropped.

SQL> drop synonym product_details;

Synonym dropped.

SQL> delete from item_list where rno = 00001;

5 rows deleted.

SQL> delete from receipts where rno = 00001;
```

1 row deleted.

SQL>
SQL>
SQL>
SQL> spool off