FAIZAN CHOUDHARY

20BCS021

DBMS LAB

21st March 2022

Creation:

- ```
  mysql> use 20bcs021_faizan;
  ```
- ```
  mysql> create table sales2 as select * from sales;
  ```
  // since this table is similar to table given in A6 with slight modifications
- ```
  mysql> insert into sales2 values
      -> (8, '2002/12/22', 1000, 4, 'Wood'),
      -> (9, '2004/12/29', 5000, 4, 'Smith');
  ```
- ```
  mysql> update sales2
      -> set qty=2
      -> where order_id=2;
  ```
- ```
  mysql> alter table sales2
      -> rename column price to order_price;
  ```
- ```
  mysql> alter table sales2
      -> rename column date to order_date;
  ```
- ```
  mysql> select * from sales2;
  ```

```
mysql> select * from sales2;
+----------+------------+-------------+------+---------+
| order_id | order_date | order_price | qty  | cust    |
+----------+------------+-------------+------+---------+
|        1 | 2005-12-22 |         160 |    2 | Smith   |
|        2 | 2005-08-10 |         190 |    2 | Johnson |
|        3 | 2005-07-13 |         500 |    5 | Baldwin |
|        4 | 2005-07-15 |         420 |    2 | Smith   |
|        5 | 2005-12-22 |        1000 |    4 | Wood    |
|        6 | 2005-10-02 |         820 |    4 | Smith   |
|        7 | 2005-11-03 |        2000 |    2 | Baldwin |
|        8 | 2002-12-22 |        1000 |    4 | Wood    |
|        9 | 2004-12-29 |        5000 |    4 | Smith   |
+----------+------------+-------------+------+---------+
9 rows in set (0.00 sec)
```

- ```
  mysql> create table products
      -> (
      -> product_id       varchar(10),
      -> order_id         int,
      -> mfg_date         date,
      -> raw_mtrl         varchar(10),
      -> vendor_id        int
      -> );
  ```
- ```
  mysql> insert into products values
      -> ('AZ145', 2, '2005-12-23', 'Steel', 1),
      -> ('AZ147', 6, '2002-08-15', 'Steel', 3),
      -> ('CS435', 5, '2001-11-04', 'Steel', 1),
      -> ('CS783', 1, '2004-11-03', 'Plastic', 2),
  ```
  ```

```
    -> ('CS784', 4, '2005-11-28', 'Plastic', 2),
    -> ('FD123', 2, '2005-10-03', 'Milk', 2),
    -> ('FD267', 5, '2002-03-21', 'Bread', 4),
    -> ('FD333', 9, '2001-12-12', 'Milk', 1),
    -> ('FD344', 3, '2005-11-03', 'Milk', 1),
    -> ('GR233', 3, '2005-11-30', 'Pulses', 2),
    -> ('GR567', 6, '2005-09-03', 'Pulses', 2);
```

- `mysql> select * from products;`

```
mysql> select * from products;
+------------+----------+------------+----------+-----------+
| product_id | order_id | mfg_date   | raw_mtrl | vendor_id |
+------------+----------+------------+----------+-----------+
| AZ145      |        2 | 2005-12-23 | Steel    |         1 |
| AZ147      |        6 | 2002-08-15 | Steel    |         3 |
| CS435      |        5 | 2001-11-04 | Steel    |         1 |
| CS783      |        1 | 2004-11-03 | Plastic  |         2 |
| CS784      |        4 | 2005-11-28 | Plastic  |         2 |
| FD123      |        2 | 2005-10-03 | Milk     |         2 |
| FD267      |        5 | 2002-03-21 | Bread    |         4 |
| FD333      |        9 | 2001-12-12 | Milk     |         1 |
| FD344      |        3 | 2005-11-03 | Milk     |         1 |
| GR233      |        3 | 2005-11-30 | Pulses   |         2 |
| GR567      |        6 | 2005-09-03 | Pulses   |         2 |
+------------+----------+------------+----------+-----------+
11 rows in set (0.00 sec)
```

- ```
  mysql> create table vendor_info
      -> (
      -> vendor_id        int,
      -> vendor_name      varchar(10)
      -> );
  ```
- ```
  mysql> insert into vendor_info values
      -> (1, 'Smith'),
      -> (2, 'Wills'),
      -> (3, 'Johnson'),
      -> (4, 'Roger');
  ```
- `mysql> select * from vendor_info;`

```
mysql> select * from vendor_info;
+-----------+-------------+
| vendor_id | vendor_name |
+-----------+-------------+
|         1 | Smith       |
|         2 | Wills       |
|         3 | Johnson     |
|         4 | Roger       |
+-----------+-------------+
4 rows in set (0.00 sec)
```

- ```
  mysql> create table vendors
      -> (
      -> raw_mtrl         varchar(10),
      -> vendors          varchar(10),
      -> vendor_id        int
      -> );
  ```
  ```

- ```
  mysql> insert into vendors values
      -> ('Steel', 'Smith', 1),
      -> ('Plastic', 'Wills', 2),
      -> ('Steel', 'Johnson', 3),
      -> ('Milk', 'Smith', 1),
      -> ('Pulses', 'Wills', 2),
      -> ('Bread', 'Roger', 4),
      -> ('Bread', 'Wills', 2),
      -> ('Milk', 'Wills', 3);
  ```
- ```
  mysql> select * from vendors;
  ```

```
mysql> select * from vendors;
+----------+---------+-----------+
| raw_mtrl | vendors | vendor_id |
+----------+---------+-----------+
| Steel    | Smith   |         1 |
| Plastic  | Wills   |         2 |
| Steel    | Johnson |         3 |
| Milk     | Smith   |         1 |
| Pulses   | Wills   |         2 |
| Bread    | Roger   |         4 |
| Bread    | Wills   |         2 |
| Milk     | Wills   |         3 |
+----------+---------+-----------+
8 rows in set (0.00 sec)
```

Queries:

1. **Display product information which are ordered in the same year of its manufacturing year.**

```
mysql> select product_id, products.order_id, mfg_date, raw_mtrl,
vendor_id
    -> from products inner join sales2 on sales2.order_id =
products.order_id
    -> where year(sales2.order_date) = year(products.mfg_date);
```

OUTPUT:

```
+------------+----------+------------+----------+-----------+
| product_id | order_id | mfg_date   | raw_mtrl | vendor_id |
+------------+----------+------------+----------+-----------+
| AZ145      |        2 | 2005-12-23 | Steel    |         1 |
| CS784      |        4 | 2005-11-28 | Plastic  |         2 |
| FD123      |        2 | 2005-10-03 | Milk     |         2 |
| FD344      |        3 | 2005-11-03 | Milk     |         1 |
| GR233      |        3 | 2005-11-30 | Pulses   |         2 |
| GR567      |        6 | 2005-09-03 | Pulses   |         2 |
+------------+----------+------------+----------+-----------+
6 rows in set (0.00 sec)
```

2. **Display product information which are ordered in the same year of its manufacturing year where vender is 'Smith'.**

```
mysql> select product_id, products.order_id, mfg_date, raw_mtrl,
products.vendor_id, vendor_info.vendor_name
    -> from sales2 inner join (products inner join vendor_info on
products.vendor_id = vendor_info.vendor_id) on sales2.order_id =
products.order_id
    -> where year(sales2.order_date) = year(products.mfg_date) and
vendor_info.vendor_name='Smith';
```

OUTPUT:

```
+------------+----------+------------+----------+-----------+-------------+
| product_id | order_id | mfg_date   | raw_mtrl | vendor_id | vendor_name |
+------------+----------+------------+----------+-----------+-------------+
| AZ145      |        2 | 2005-12-23 | Steel    |         1 | Smith       |
| FD344      |        3 | 2005-11-03 | Milk     |         1 | Smith       |
+------------+----------+------------+----------+-----------+-------------+
2 rows in set (0.00 sec)
```

3. **Display total number of orders placed in each year.**

```
mysql> select year(order_date) as year, sum(qty) as no_of_orders
    -> from sales2
    -> group by year;
```

OUTPUT:

```
+------+--------------+
| year | no_of_orders |
+------+--------------+
| 2005 |           21 |
| 2002 |            4 |
| 2004 |            4 |
+------+--------------+
3 rows in set (0.00 sec)
```

4. **Display total number of orders placed in each year by vender Wills.**

```
mysql> select year(order_date) as year, sum(qty) as no_of_orders,
v.vendor_name as name, v.vendor_id as id
    -> from sales2 inner join (products inner join vendor_info v on
products.vendor_id = v.vendor_id) on sales2.order_id =
products.order_id
    -> where v.vendor_name='Wills'
    -> group by year;
```

OUTPUT:

```
+------+--------------+-------+------+
| year | no_of_orders | name  | id   |
+------+--------------+-------+------+
| 2005 |           15 | Wills |    2 |
+------+--------------+-------+------+
1 row in set (0.00 sec)
```

5. **Display the name of all those persons who are venders and customers both.**

```
mysql> select vendor_name as name
    -> from vendor_info
    -> where vendor_name in (select cust from sales2);
```

OUTPUT:

```
+---------+
| name    |
+---------+
| Smith   |
| Johnson |
+---------+
2 rows in set (0.00 sec)
```

6. **Display total number of food items ordered every year.**

```
mysql> select year(order_date) as year, sum(qty) as no_of_orders,
raw_mtrl as item
    -> from sales2 s inner join products p on s.order_id =
p.order_id
    -> where raw_mtrl in ('Milk', 'Bread', 'Pulses')
    -> group by raw_mtrl, year;
```

OUTPUT:

```
+------+--------------+--------+
| year | no_of_orders | item   |
+------+--------------+--------+
| 2005 |            7 | Milk   |
| 2005 |            9 | Pulses |
| 2005 |            4 | Bread  |
| 2004 |            4 | Milk   |
+------+--------------+--------+
4 rows in set (0.00 sec)
```

7. **Display total number of food items ordered every year made from bread.**

```
mysql> select year(order_date) as year, sum(qty) as no_of_orders,
raw_mtrl as item
    -> from sales2 s inner join products p on s.order_id =
p.order_id
    -> where raw_mtrl in ('Milk', 'Bread', 'Pulses')
    -> group by raw_mtrl, year
    -> having raw_mtrl='Bread';
```

OUTPUT:

```
+------+--------------+-------+
| year | no_of_orders | item  |
+------+--------------+-------+
| 2005 |            4 | Bread |
+------+--------------+-------+
1 row in set (0.00 sec)
```

8. **Display list of product_id whose vender and customer is different.**

```
mysql> select product_id
    -> from sales2 s inner join (products p inner join vendor_info
v on p.vendor_id = v.vendor_id) on s.order_id = p.order_id
    -> where s.cust != v.vendor_name;
```

OUTPUT:

```
+------------+
| product_id |
+------------+
| CS783      |
| FD123      |
| AZ145      |
| GR233      |
| FD344      |
| CS784      |
| FD267      |
| CS435      |
| GR567      |
| AZ147      |
+------------+
10 rows in set (0.00 sec)
```

9. **Display all those customers who are ordering products of milk by Smith.**

```
mysql> select cust
    -> from sales2 s inner join (products p inner join vendor_info
v on p.vendor_id = v.vendor_id) on s.order_id = p.order_id
    -> where raw_mtrl='Milk' and vendor_name='Smith';
```

OUTPUT:

```
+---------+
| cust    |
+---------+
| Baldwin |
| Smith   |
+---------+
2 rows in set (0.00 sec)
```

10. **Display total number of orders by each vender every year.**

```
mysql> select sum(qty) as no_of_orders, vendor_name as vendor,
year(order_date) as year
    -> from sales2 s inner join (products p inner join vendor_info
v on p.vendor_id = v.vendor_id) on s.order_id = p.order_id
    -> group by vendor, year;
```

OUTPUT:

```
+--------------+---------+------+
| no_of_orders | vendor  | year |
+--------------+---------+------+
|           15 | Wills   | 2005 |
|           11 | Smith   | 2005 |
|            4 | Roger   | 2005 |
|            4 | Johnson | 2005 |
|            4 | Smith   | 2004 |
+--------------+---------+------+
5 rows in set (0.00 sec)
```

11. Display name of those venders whose products are sold more than 2000 Rs. every year.

```
mysql> select vendor_name, sum(order_price * qty) as tot_price,
year(order_date) as year
    -> from sales2 s inner join (products p inner join vendor_info
v on p.vendor_id = v.vendor_id) on s.order_id = p.order_id
    -> group by year(order_date), vendor_name
    -> having tot_price > 2000;
```

OUTPUT:

```
+-------------+-----------+------+
| vendor_name | tot_price | year |
+-------------+-----------+------+
| Wills       |      7320 | 2005 |
| Smith       |      6880 | 2005 |
| Roger       |      4000 | 2005 |
| Johnson     |      3280 | 2005 |
| Smith       |     20000 | 2004 |
+-------------+-----------+------+
5 rows in set (0.00 sec)
```