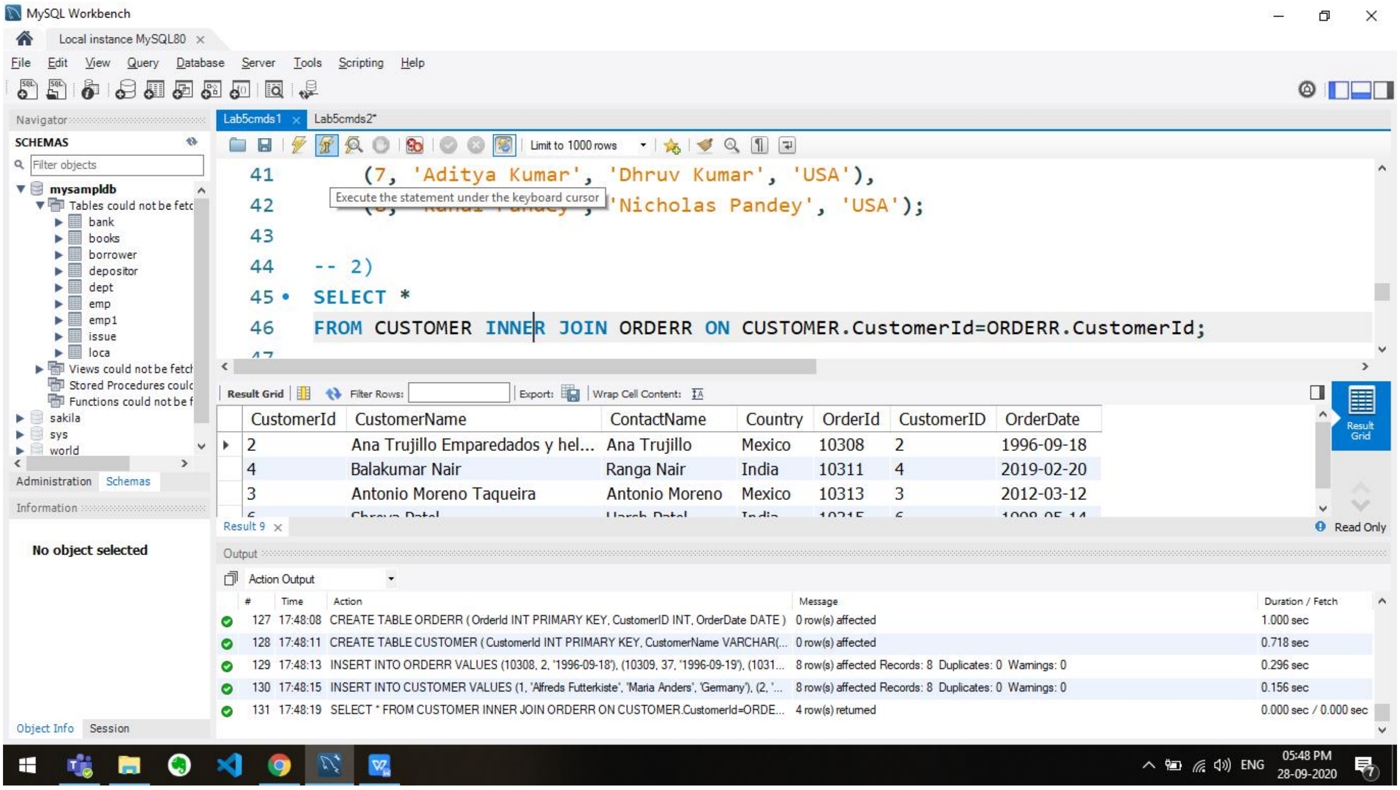
DBMS LAB 5

V Venkataraman 106118106

Q1

```
use mysampldb;
DROP TABLE ORDERR;
DROP TABLE CUSTOMER;

CREATE TABLE ORDERR
(
    OrderId INT PRIMARY KEY,
    CustomerID INT,
    OrderDate DATE
);

CREATE TABLE CUSTOMER
(
    CustomerId INT PRIMARY KEY,
    CustomerName VARCHAR(100),
    ContactName VARCHAR(100),
    Country VARCHAR(100)
);

-- 1)
INSERT INTO ORDERR
VALUES
    (10308, 2, '1996-09-18'),
    (10309, 37, '1996-09-19'),
    (10310, 77, '1996-09-20'),
    (10311, 4, '2019-02-20'),
    (10312, 42, '2018-11-28'),
    (10313, 3, '2012-03-12'),
    (10314, 42, '2003-12-31'),
    (10315, 6, '1998-05-14');


INSERT INTO CUSTOMER
VALUES
    (1, 'Alfreds Futterkiste', 'Maria Anders', 'Germany'),
    (2, 'Ana Trujillo Emparedados y helados', 'Ana Trujillo', 'Mexico'),
    (3, 'Antonio Moreno Taqueira', 'Antonio Moreno', 'Mexico'),
    (4, 'Balakumar Nair', 'Ranga Nair', 'India'),
    (5, 'Akash Sharma', 'Anita Sharma', 'India'),
    (6, 'Shreya Patel', 'Harsh Patel ', 'India'),
    (7, 'Aditya Kumar', 'Dhruv Kumar', 'USA'),
    (8, 'Rahul Pandey', 'Nicholas Pandey', 'USA');
```

```
-- 2)
SELECT *
FROM CUSTOMER INNER JOIN ORDERR ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```

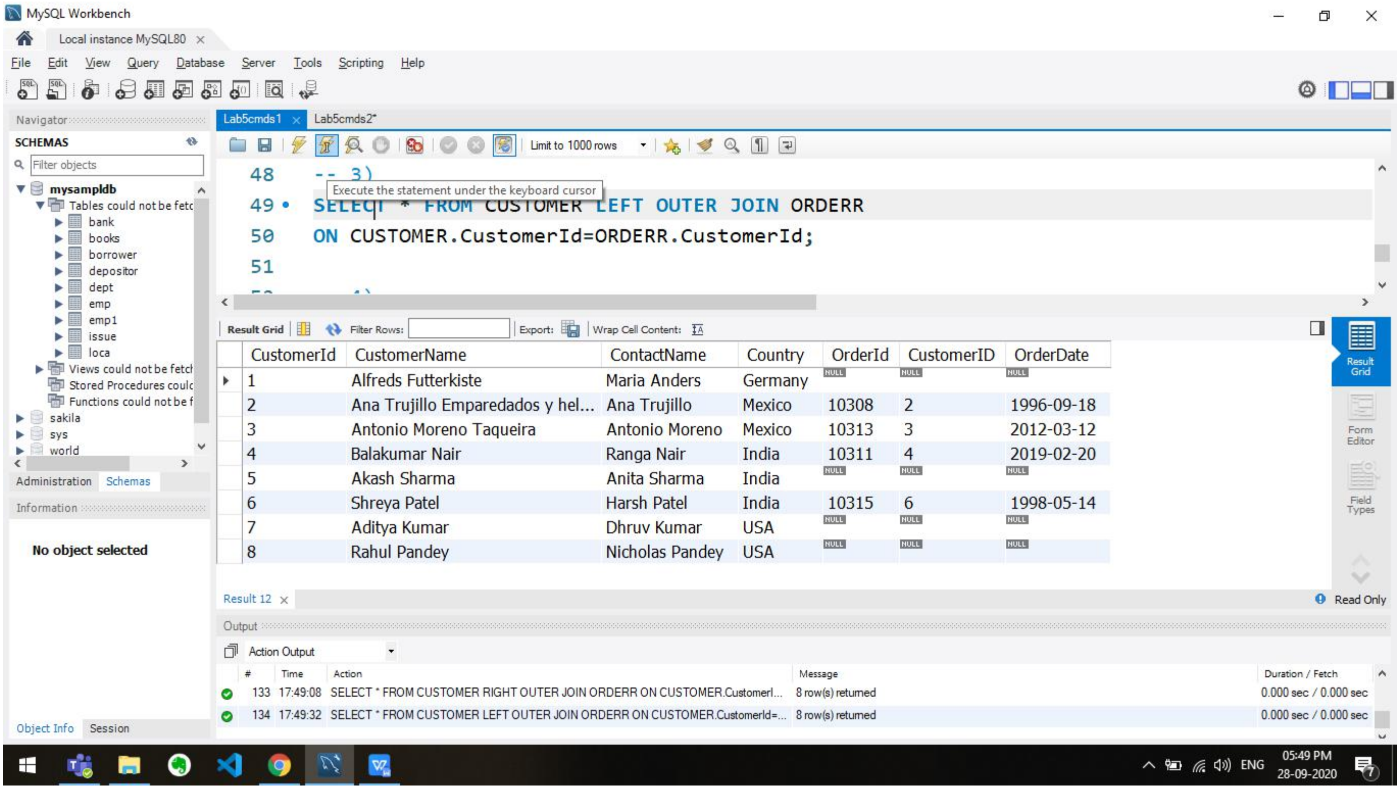


```
    (7, 'Aditya Kumar', 'Dhruv Kumar', 'USA'),
    (8, 'Rahul Pandey', 'Nicholas Pandey', 'USA');

-- 2)
SELECT *
FROM CUSTOMER INNER JOIN ORDERR ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```

	CustomerId	CustomerName	ContactName	Country	OrderId	CustomerID	OrderDate
▸	2	Ana Trujillo Emparedados y hel...	Ana Trujillo	Mexico	10308	2	1996-09-18
	4	Balakumar Nair	Ranga Nair	India	10311	4	2019-02-20
	3	Antonio Moreno Taqueira	Antonio Moreno	Mexico	10313	3	2012-03-12
	6	Shreya Patel	Harsh Patel	India	10315	6	1998-05-14

```
#    Time      Action                                                                          Message                                                 Duration / Fetch
127  17:48:08  CREATE TABLE ORDERR ( OrderId INT PRIMARY KEY, CustomerID INT, OrderDate DATE )  0 row(s) affected                                       1.000 sec
128  17:48:11  CREATE TABLE CUSTOMER ( CustomerId INT PRIMARY KEY, CustomerName VARCHAR(...     0 row(s) affected                                       0.718 sec
129  17:48:13  INSERT INTO ORDERR VALUES (10308, 2, '1996-09-18'), (10309, 37, '1996-09-19'), (1031...  8 row(s) affected Records: 8  Duplicates: 0  Warnings: 0  0.296 sec
130  17:48:15  INSERT INTO CUSTOMER VALUES (1, 'Alfreds Futterkiste', 'Maria Anders', 'Germany'), (2, '...  8 row(s) affected Records: 8  Duplicates: 0  Warnings: 0  0.156 sec
131  17:48:19  SELECT * FROM CUSTOMER INNER JOIN ORDERR ON CUSTOMER.CustomerId=ORDE...      4 row(s) returned                                       0.000 sec / 0.000 sec
```

```
-- 3)
SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```

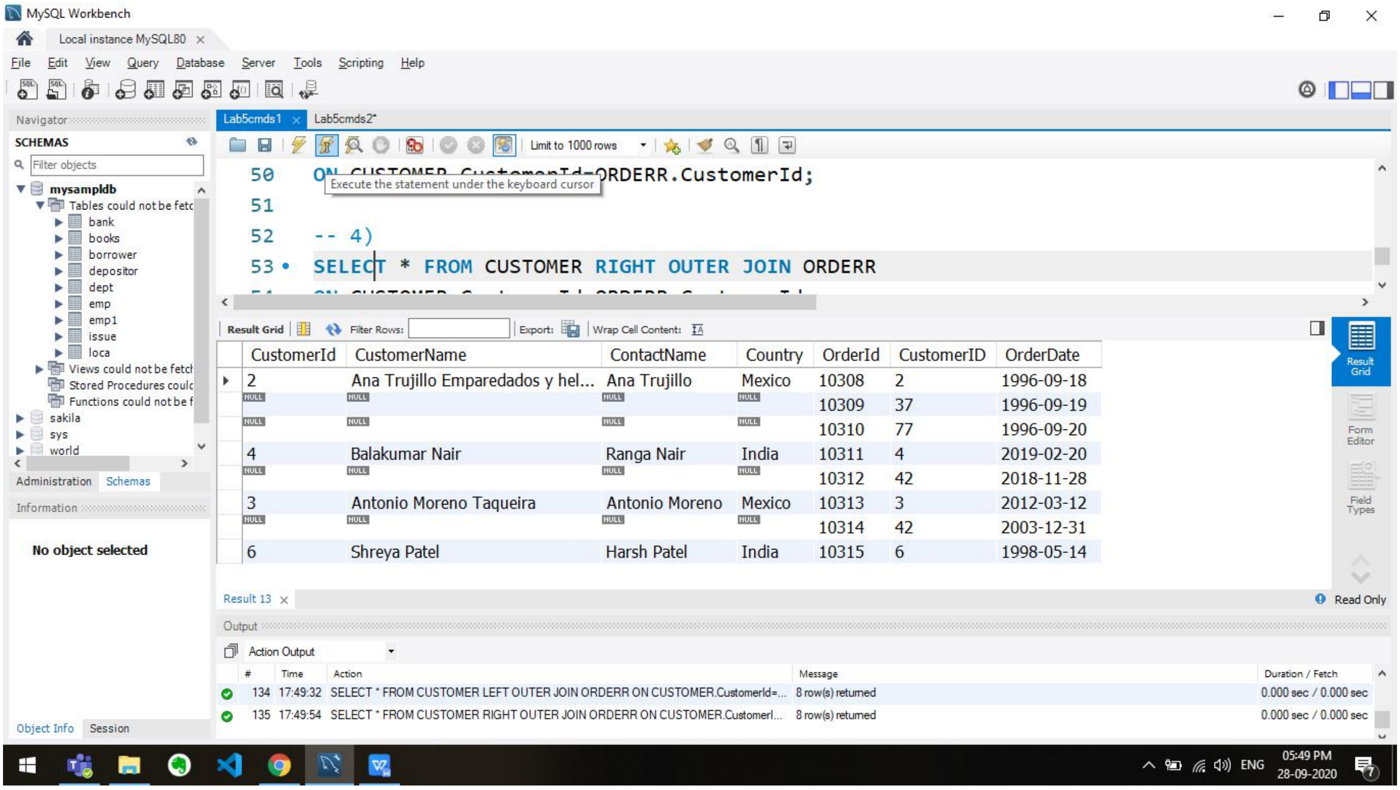


```
-- 3)
SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```

	CustomerId	CustomerName	ContactName	Country	OrderId	CustomerID	OrderDate
▸	1	Alfreds Futterkiste	Maria Anders	Germany	NULL	NULL	NULL
	2	Ana Trujillo Emparedados y hel...	Ana Trujillo	Mexico	10308	2	1996-09-18
	3	Antonio Moreno Taqueira	Antonio Moreno	Mexico	10313	3	2012-03-12
	4	Balakumar Nair	Ranga Nair	India	10311	4	2019-02-20
	5	Akash Sharma	Anita Sharma	India	NULL	NULL	NULL
	6	Shreya Patel	Harsh Patel	India	10315	6	1998-05-14
	7	Aditya Kumar	Dhruv Kumar	USA	NULL	NULL	NULL
	8	Rahul Pandey	Nicholas Pandey	USA	NULL	NULL	NULL

```
#    Time      Action                                                                   Message            Duration / Fetch
133  17:49:08  SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR ON CUSTOMER.Customerl...  8 row(s) returned  0.000 sec / 0.000 sec
134  17:49:32  SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR ON CUSTOMER.CustomerId=...  8 row(s) returned  0.000 sec / 0.000 sec
```

```
-- 4)
SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```

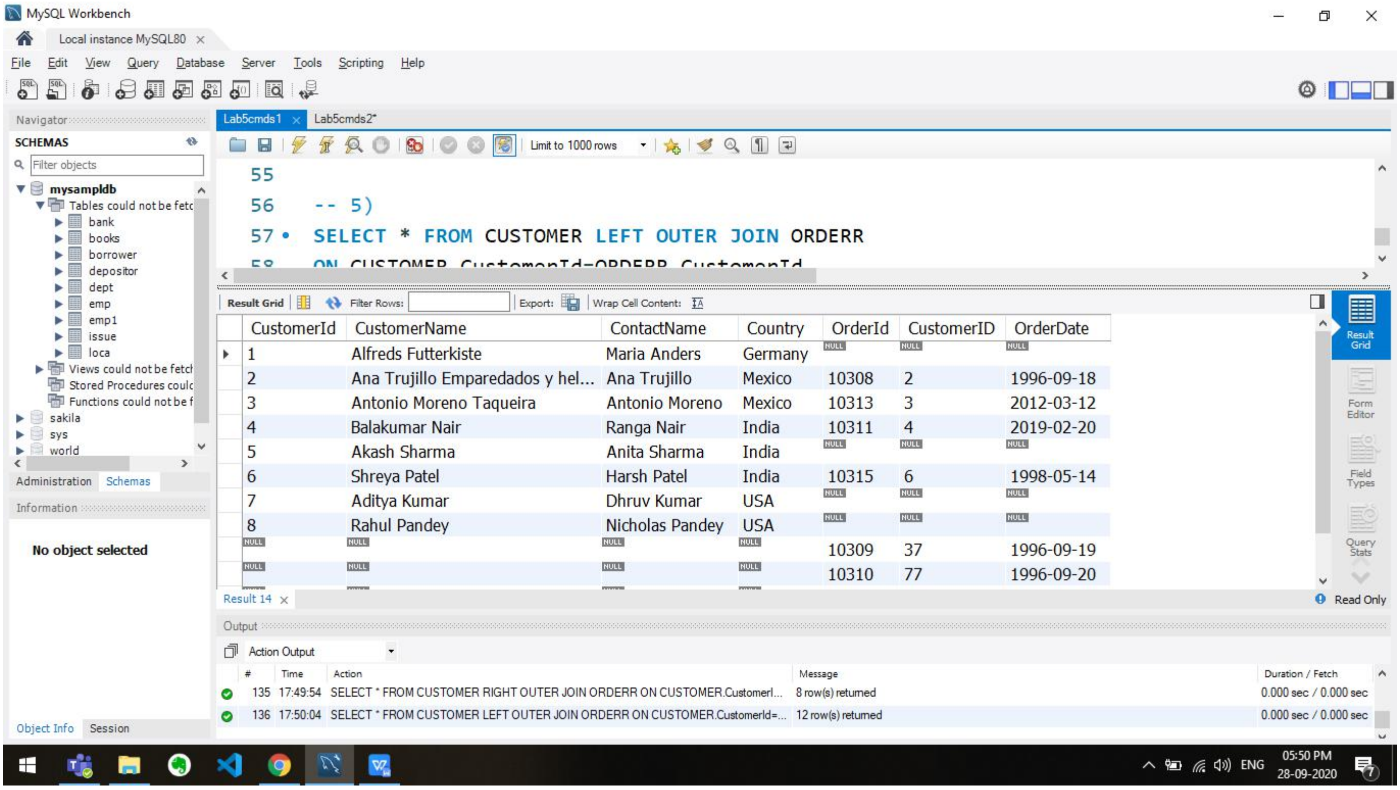


```
ON CUSTOMER.CustomerId=ORDERR.CustomerId;

-- 4)
SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR
```

CustomerId	CustomerName	ContactName	Country	OrderId	CustomerID	OrderDate
2	Ana Trujillo Emparedados y hel...	Ana Trujillo	Mexico	10308	2	1996-09-18
NULL	NULL	NULL	NULL	10309	37	1996-09-19
NULL	NULL	NULL	NULL	10310	77	1996-09-20
4	Balakumar Nair	Ranga Nair	India	10311	4	2019-02-20
NULL	NULL	NULL	NULL	10312	42	2018-11-28
3	Antonio Moreno Taqueira	Antonio Moreno	Mexico	10313	3	2012-03-12
NULL	NULL	NULL	NULL	10314	42	2003-12-31
6	Shreya Patel	Harsh Patel	India	10315	6	1998-05-14

#	Time	Action	Message	Duration / Fetch
134	17:49:32	SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR ON CUSTOMER.CustomerId=...	8 row(s) returned	0.000 sec / 0.000 sec
135	17:49:54	SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR ON CUSTOMER.CustomerI...	8 row(s) returned	0.000 sec / 0.000 sec

```
-- 5)
SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId
UNION
SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId;
```



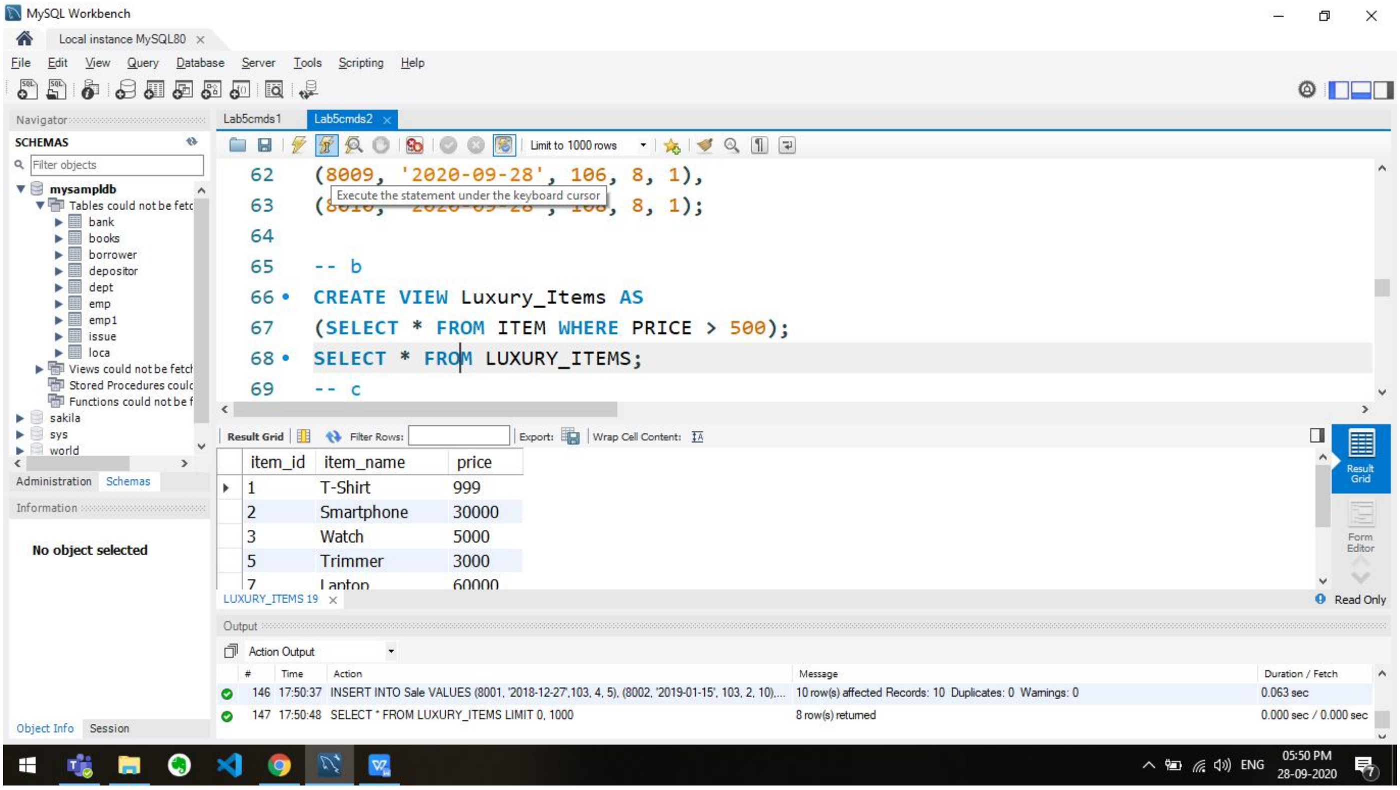
```
-- 5)
SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR
ON CUSTOMER.CustomerId=ORDERR.CustomerId
```

	CustomerId	CustomerName	ContactName	Country	OrderId	CustomerID	OrderDate
▸	1	Alfreds Futterkiste	Maria Anders	Germany	NULL	NULL	NULL
	2	Ana Trujillo Emparedados y hel...	Ana Trujillo	Mexico	10308	2	1996-09-18
	3	Antonio Moreno Taqueira	Antonio Moreno	Mexico	10313	3	2012-03-12
	4	Balakumar Nair	Ranga Nair	India	10311	4	2019-02-20
	5	Akash Sharma	Anita Sharma	India	NULL	NULL	NULL
	6	Shreya Patel	Harsh Patel	India	10315	6	1998-05-14
	7	Aditya Kumar	Dhruv Kumar	USA	NULL	NULL	NULL
	8	Rahul Pandey	Nicholas Pandey	USA	NULL	NULL	NULL
	NULL	NULL	NULL	NULL	10309	37	1996-09-19
	NULL	NULL	NULL	NULL	10310	77	1996-09-20

```
#    Time      Action                                                          Message            Duration / Fetch
135  17:49:54  SELECT * FROM CUSTOMER RIGHT OUTER JOIN ORDERR ON CUSTOMER.Customerl...  8 row(s) returned   0.000 sec / 0.000 sec
136  17:50:04  SELECT * FROM CUSTOMER LEFT OUTER JOIN ORDERR ON CUSTOMER.CustomerId=...  12 row(s) returned  0.000 sec / 0.000 sec
```

Q2

```
use mysampldb;
DROP TABLE Customer;
DROP TABLE Item;
DROP TABLE Sale;

CREATE TABLE Customer
(
        Cust_id     INT PRIMARY KEY,
        cust_name VARCHAR(50)
);

CREATE TABLE Item
(
        item_id INT,
        item_name VARCHAR(50),
        price INT
);


CREATE TABLE Sale
(
      bill_no INT PRIMARY KEY,
        bill_date DATE,
        cust_id INT,
        item_id INT,
        qty_sold INT DEFAULT 0
);

INSERT INTO CUSTOMER VALUES
(101,'Ahmed'),
(102,'Bala'),
(103, 'Chan'),
(104, 'Dhruv'),
(105, 'Easwar'),
(106, 'Freddy'),
(107, 'Gayatri'),
(108, 'Harsh'),
(109,'Rahul'),
(110, 'Sam');

INSERT INTO Item VALUES
(1, 'T-Shirt', 999),
(2, 'Smartphone', 30000),
(3, 'Watch', 5000),
(4, 'Cap', 300),
(5, 'Trimmer', 3000),
(6, 'Comb', 100),
(7, 'Laptop', 60000),
(8, 'Gaming System', 200000),
(9, 'Headphones', 7000),
(10, 'Shoes', 2000);

INSERT INTO Sale VALUES
(8001, '2018-12-27',103, 4, 5),
(8002, '2019-01-15', 103, 2, 10),
(8003, '2019-02-07', 101, 3, 2),
(8004, '2019-04-13', 110, 5, 1),
(8005, '2019-06-27', 109, 7, 2),
(8006, '2019-08-07', 109, 7, 3),
(8007, '2019-10-17', 102, 6, 100),
(8008, '2019-12-07', 105, 8, 1),
(8009, '2020-09-28', 106, 8, 1),
(8010, '2020-09-28', 108, 8, 1);

-- b
CREATE VIEW Luxury_Items AS
(SELECT * FROM ITEM WHERE PRICE > 500);
```



```
(8009, '2020-09-28', 106, 8, 1),
(8010, '2020-09-28', 108, 8, 1);

-- b
CREATE VIEW Luxury_Items AS
(SELECT * FROM ITEM WHERE PRICE > 500);
SELECT * FROM LUXURY_ITEMS;
-- c
```

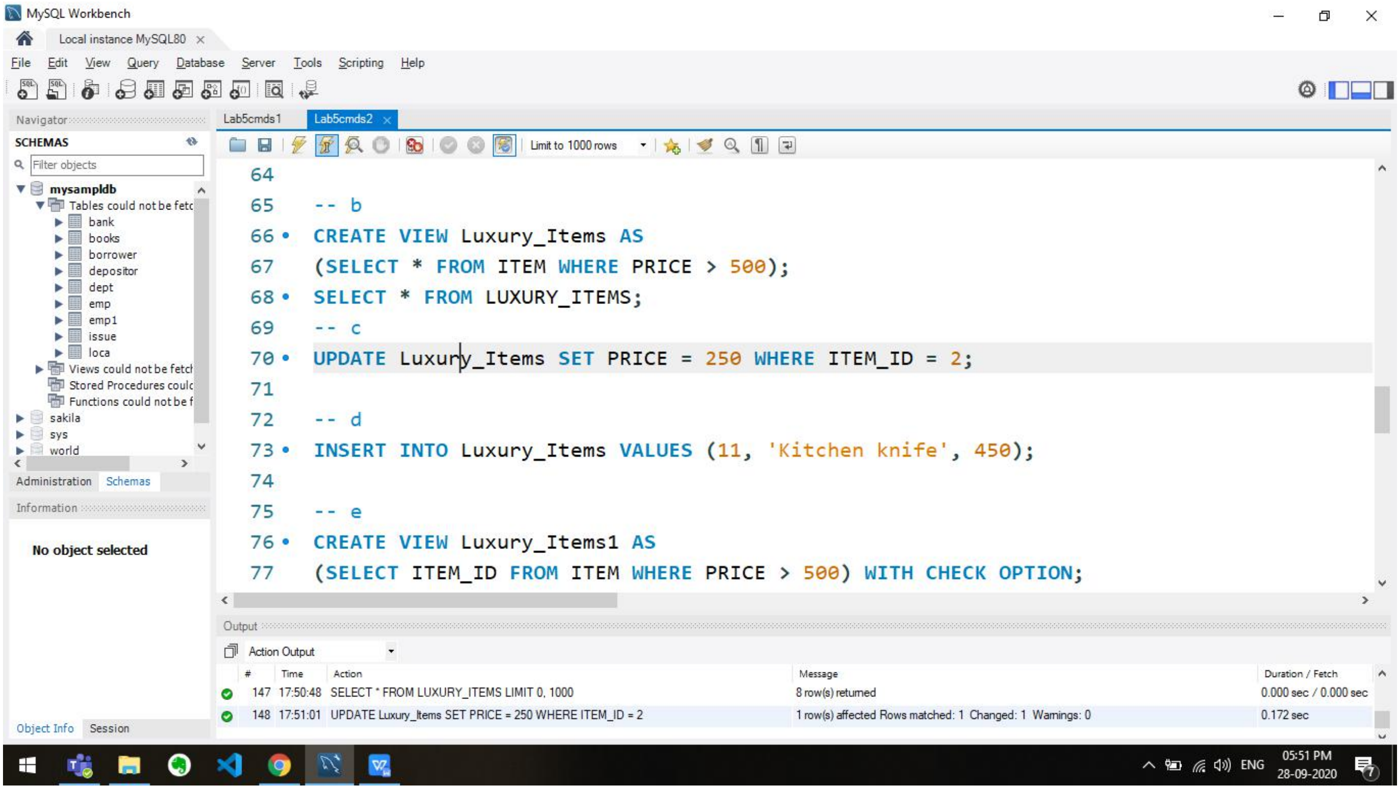
item_id	item_name	price
1	T-Shirt	999
2	Smartphone	30000
3	Watch	5000
5	Trimmer	3000
7	Laptop	60000

```
#    Time      Action                                                                        Message                                                   Duration / Fetch
146  17:50:37  INSERT INTO Sale VALUES (8001, '2018-12-27',103, 4, 5), (8002, '2019-01-15', 103, 2, 10),...  10 row(s) affected Records: 10  Duplicates: 0  Warnings: 0  0.063 sec
147  17:50:48  SELECT * FROM LUXURY_ITEMS LIMIT 0, 1000                                      8 row(s) returned                                         0.000 sec / 0.000 sec
```

SELECT * FROM LUXURY_ITEMS;

-- c

UPDATE Luxury_Items SET PRICE = 250 WHERE ITEM_ID = 2;

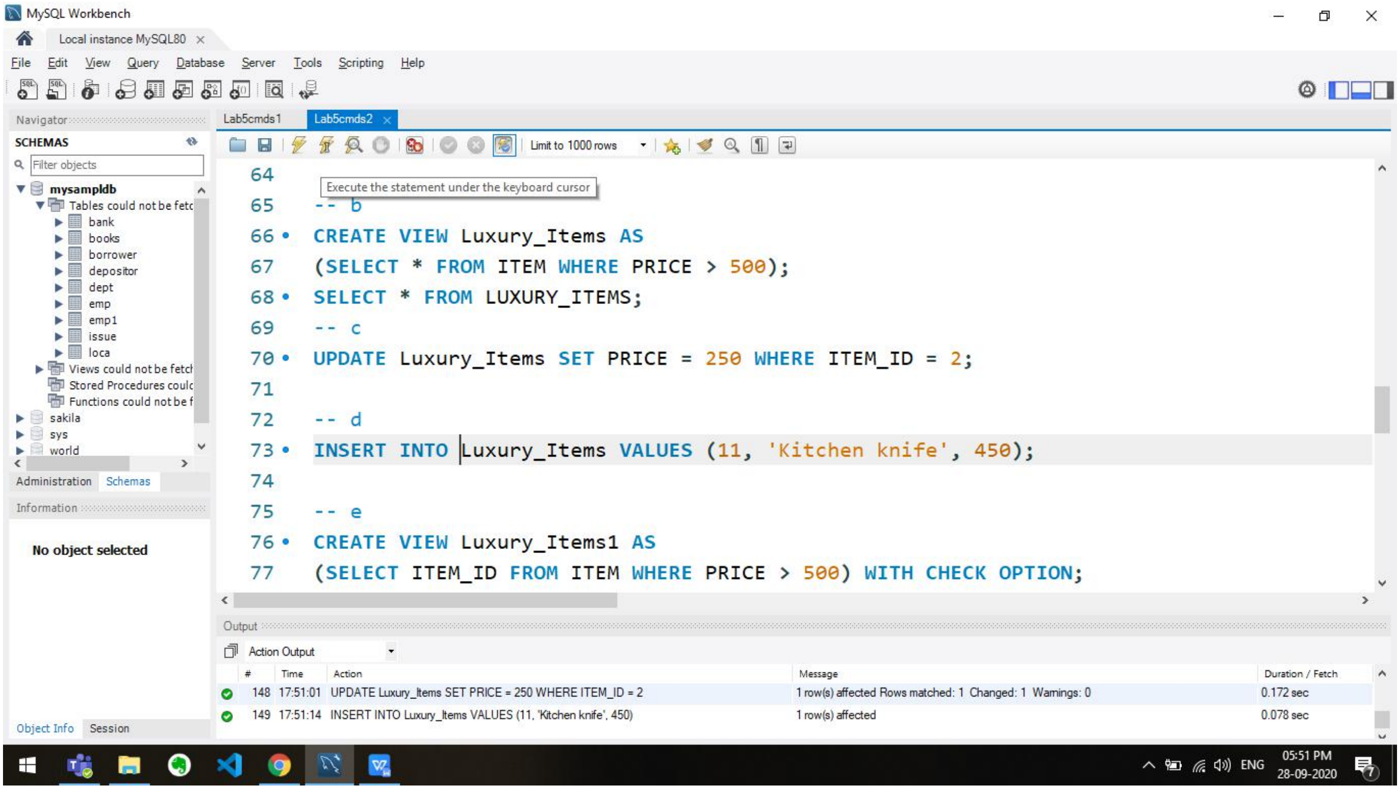


```

-- b
CREATE VIEW Luxury_Items AS
(SELECT * FROM ITEM WHERE PRICE > 500);
SELECT * FROM LUXURY_ITEMS;
-- c
UPDATE Luxury_Items SET PRICE = 250 WHERE ITEM_ID = 2;

-- d
INSERT INTO Luxury_Items VALUES (11, 'Kitchen knife', 450);

-- e
CREATE VIEW Luxury_Items1 AS
(SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) WITH CHECK OPTION;
```

```
#    Time      Action                                                 Message                                                  Duration / Fetch
147  17:50:48  SELECT * FROM LUXURY_ITEMS LIMIT 0, 1000               8 row(s) returned                                        0.000 sec / 0.000 sec
148  17:51:01  UPDATE Luxury_Items SET PRICE = 250 WHERE ITEM_ID = 2  1 row(s) affected Rows matched: 1  Changed: 1  Warnings: 0  0.172 sec
```

-- d

INSERT INTO Luxury_Items VALUES (11, 'Kitchen knife', 450);



```
-- b
CREATE VIEW Luxury_Items AS
(SELECT * FROM ITEM WHERE PRICE > 500);
SELECT * FROM LUXURY_ITEMS;
-- c
UPDATE Luxury_Items SET PRICE = 250 WHERE ITEM_ID = 2;

-- d
INSERT INTO Luxury_Items VALUES (11, 'Kitchen knife', 450);

-- e
CREATE VIEW Luxury_Items1 AS
(SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) WITH CHECK OPTION;
```

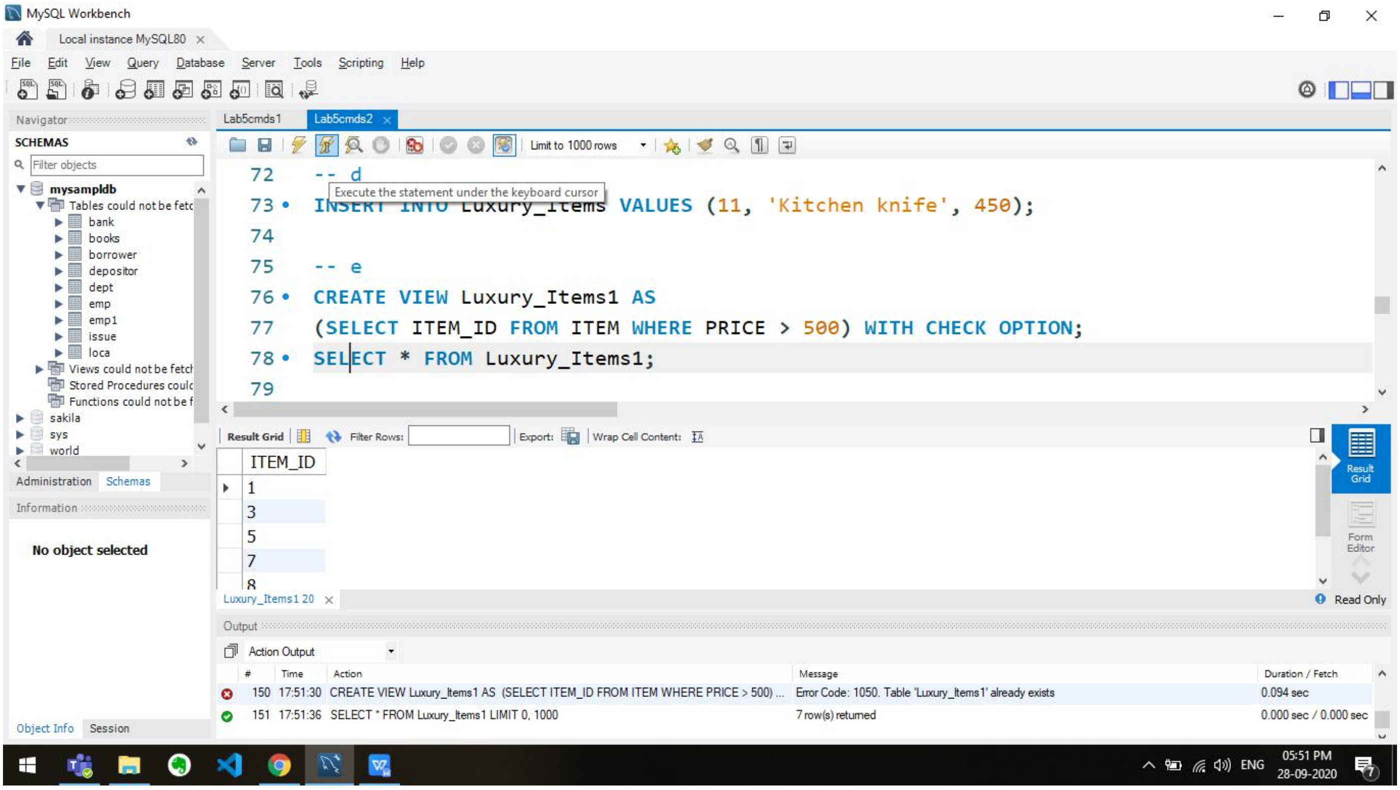
```
#    Time      Action                                                    Message                                                    Duration / Fetch
148  17:51:01  UPDATE Luxury_Items SET PRICE = 250 WHERE ITEM_ID = 2     1 row(s) affected Rows matched: 1  Changed: 1  Warnings: 0  0.172 sec
149  17:51:14  INSERT INTO Luxury_Items VALUES (11, 'Kitchen knife', 450)  1 row(s) affected                                        0.078 sec
```

-- e

CREATE VIEW Luxury_Items1 AS

(SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) WITH CHECK OPTION;

SELECT * FROM Luxury_Items1;



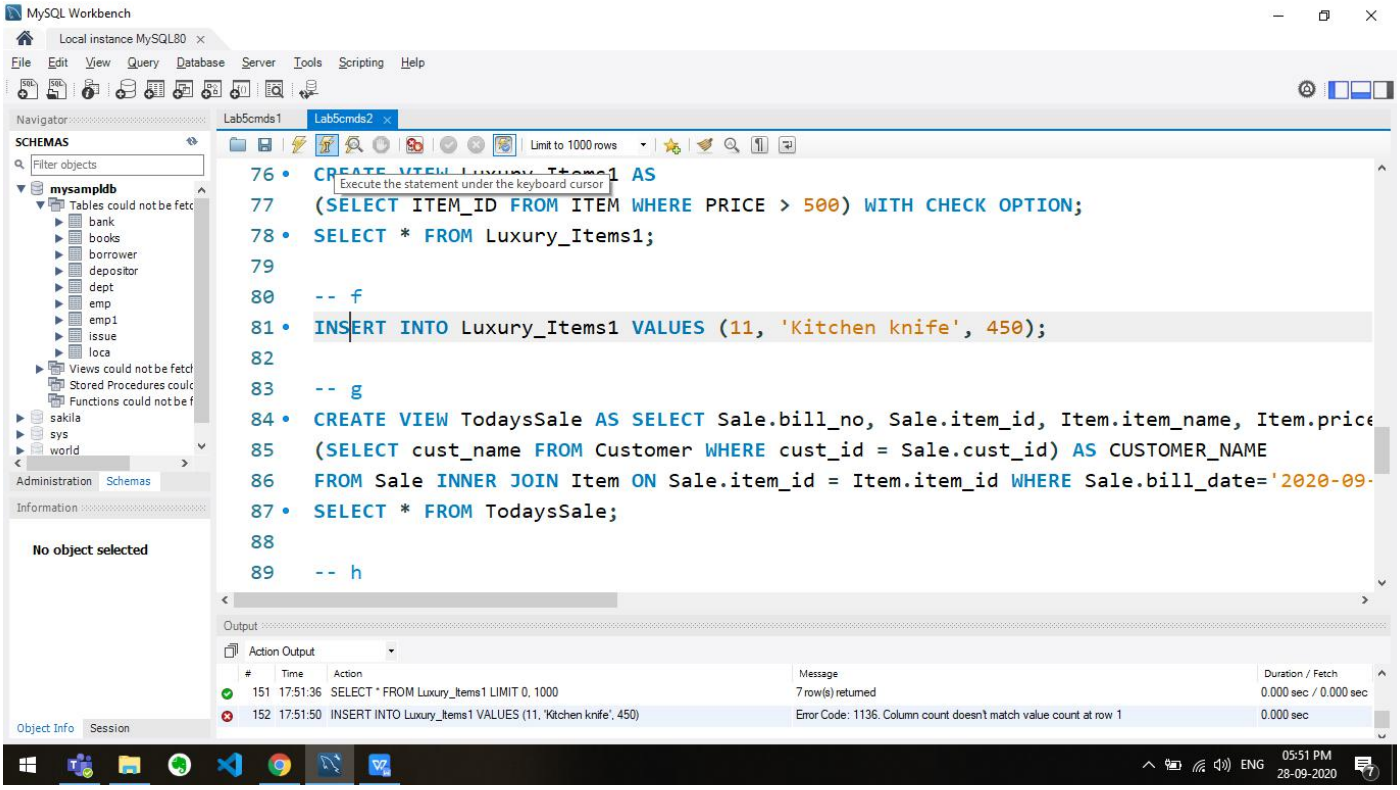
```
-- d
INSERT INTO Luxury_Items VALUES (11, 'Kitchen knife', 450);

-- e
CREATE VIEW Luxury_Items1 AS
(SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) WITH CHECK OPTION;
SELECT * FROM Luxury_Items1;
```

ITEM_ID
1
3
5
7
8

```
#    Time      Action                                                             Message                                              Duration / Fetch
150  17:51:30  CREATE VIEW Luxury_Items1 AS  (SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) ...  Error Code: 1050. Table 'Luxury_Items1' already exists  0.094 sec
151  17:51:36  SELECT * FROM Luxury_Items1 LIMIT 0, 1000                          7 row(s) returned                                    0.000 sec / 0.000 sec
```

-- f

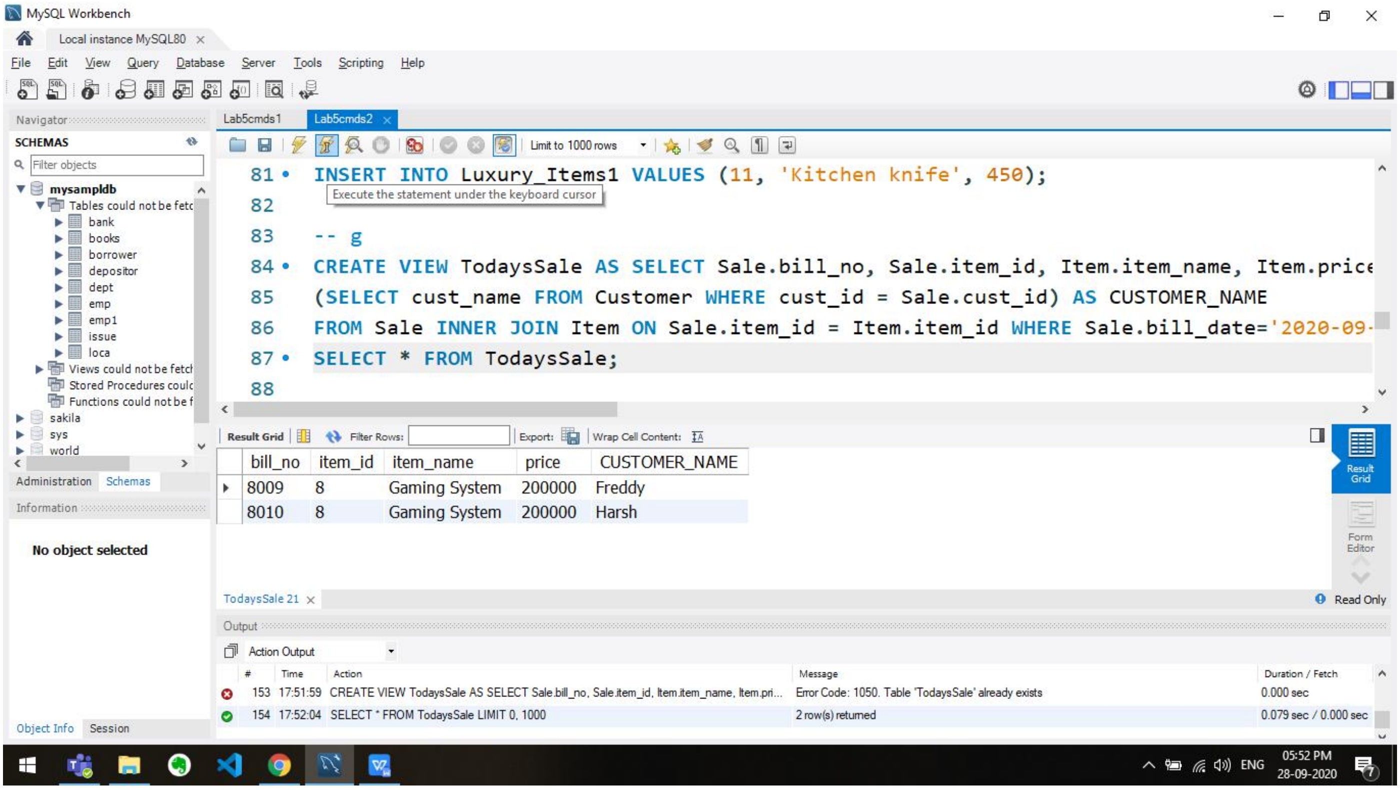
INSERT INTO Luxury_Items1 VALUES (11, 'Kitchen knife', 450);



```
CREATE VIEW Luxury_Items1 AS
(SELECT ITEM_ID FROM ITEM WHERE PRICE > 500) WITH CHECK OPTION;
SELECT * FROM Luxury_Items1;

-- f
INSERT INTO Luxury_Items1 VALUES (11, 'Kitchen knife', 450);

-- g
CREATE VIEW TodaysSale AS SELECT Sale.bill_no, Sale.item_id, Item.item_name, Item.price
(SELECT cust_name FROM Customer WHERE cust_id = Sale.cust_id) AS CUSTOMER_NAME
FROM Sale INNER JOIN Item ON Sale.item_id = Item.item_id WHERE Sale.bill_date='2020-09-
SELECT * FROM TodaysSale;

-- h
```

```
#    Time      Action                                                   Message                                                   Duration / Fetch
151  17:51:36  SELECT * FROM Luxury_Items1 LIMIT 0, 1000                7 row(s) returned                                         0.000 sec / 0.000 sec
152  17:51:50  INSERT INTO Luxury_Items1 VALUES (11, 'Kitchen knife', 450)  Error Code: 1136. Column count doesn't match value count at row 1  0.000 sec
```

-- g
CREATE VIEW TodaysSale AS SELECT Sale.bill_no, Sale.item_id, Item.item_name, Item.price, (SELECT cust_name FROM Customer WHERE cust_id = Sale.cust_id) AS CUSTOMER_NAME FROM Sale INNER JOIN Item ON Sale.item_id = Item.item_id WHERE Sale.bill_date='2020-09-28';
SELECT * FROM TodaysSale;



```
INSERT INTO Luxury_Items1 VALUES (11, 'Kitchen knife', 450);

-- g
CREATE VIEW TodaysSale AS SELECT Sale.bill_no, Sale.item_id, Item.item_name, Item.price
(SELECT cust_name FROM Customer WHERE cust_id = Sale.cust_id) AS CUSTOMER_NAME
FROM Sale INNER JOIN Item ON Sale.item_id = Item.item_id WHERE Sale.bill_date='2020-09-
SELECT * FROM TodaysSale;

```

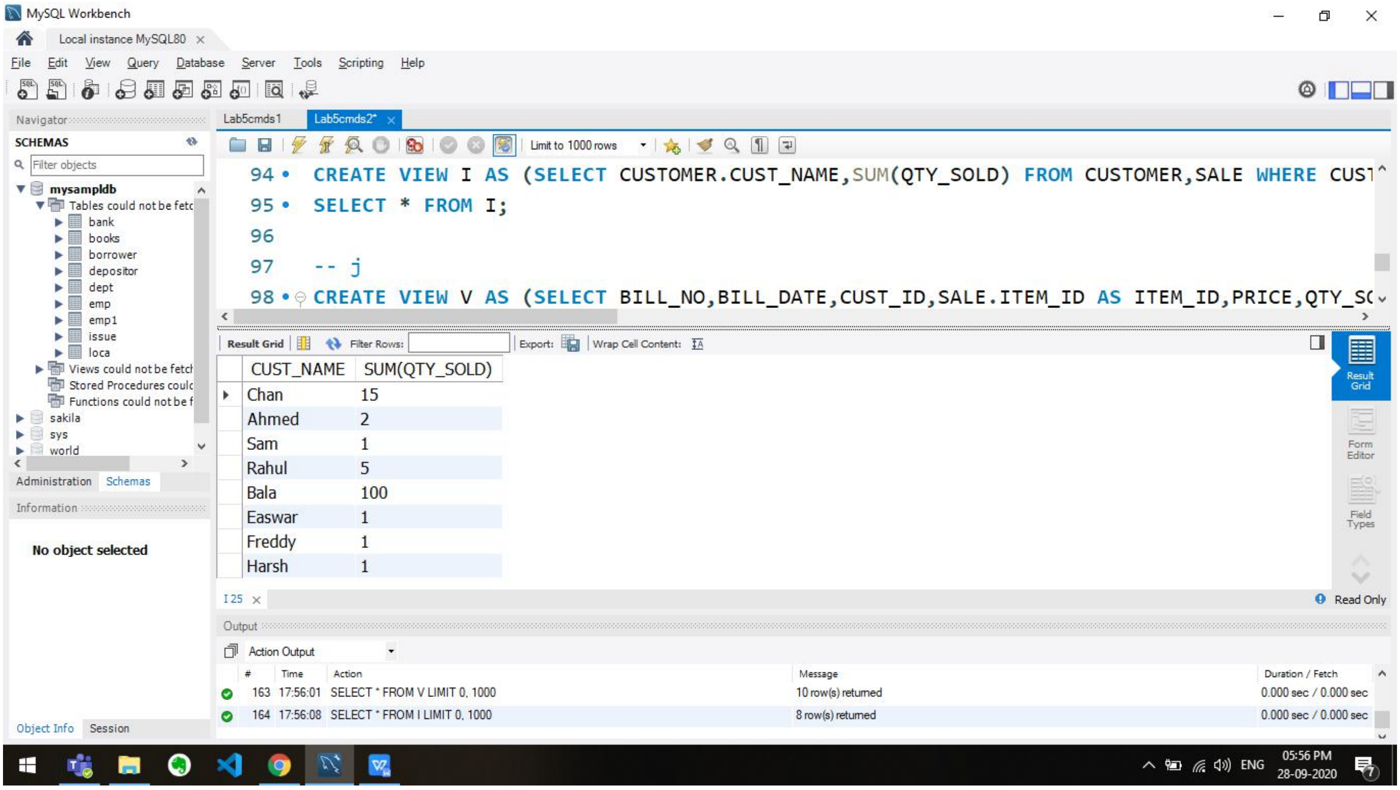
bill_no	item_id	item_name	price	CUSTOMER_NAME
8009	8	Gaming System	200000	Freddy
8010	8	Gaming System	200000	Harsh

```
#    Time      Action                                                                     Message                                        Duration / Fetch
153  17:51:59  CREATE VIEW TodaysSale AS SELECT Sale.bill_no, Sale.item_id, Item.item_name, Item.pri...  Error Code: 1050. Table 'TodaysSale' already exists  0.000 sec
154  17:52:04  SELECT * FROM TodaysSale LIMIT 0, 1000                                     2 row(s) returned                              0.079 sec / 0.000 sec
```

-- h
UPDATE TodaysSale SET PRICE = 900 WHERE item_id = 2;

-- i

CREATE VIEW I AS (SELECT CUSTOMER.CUST_NAME,SUM(QTY_SOLD) FROM CUSTOMER,SALE WHERE CUSTOMER.CUST_ID=SALE.CUST_ID GROUP BY SALE.CUST_ID);
SELECT * FROM I;



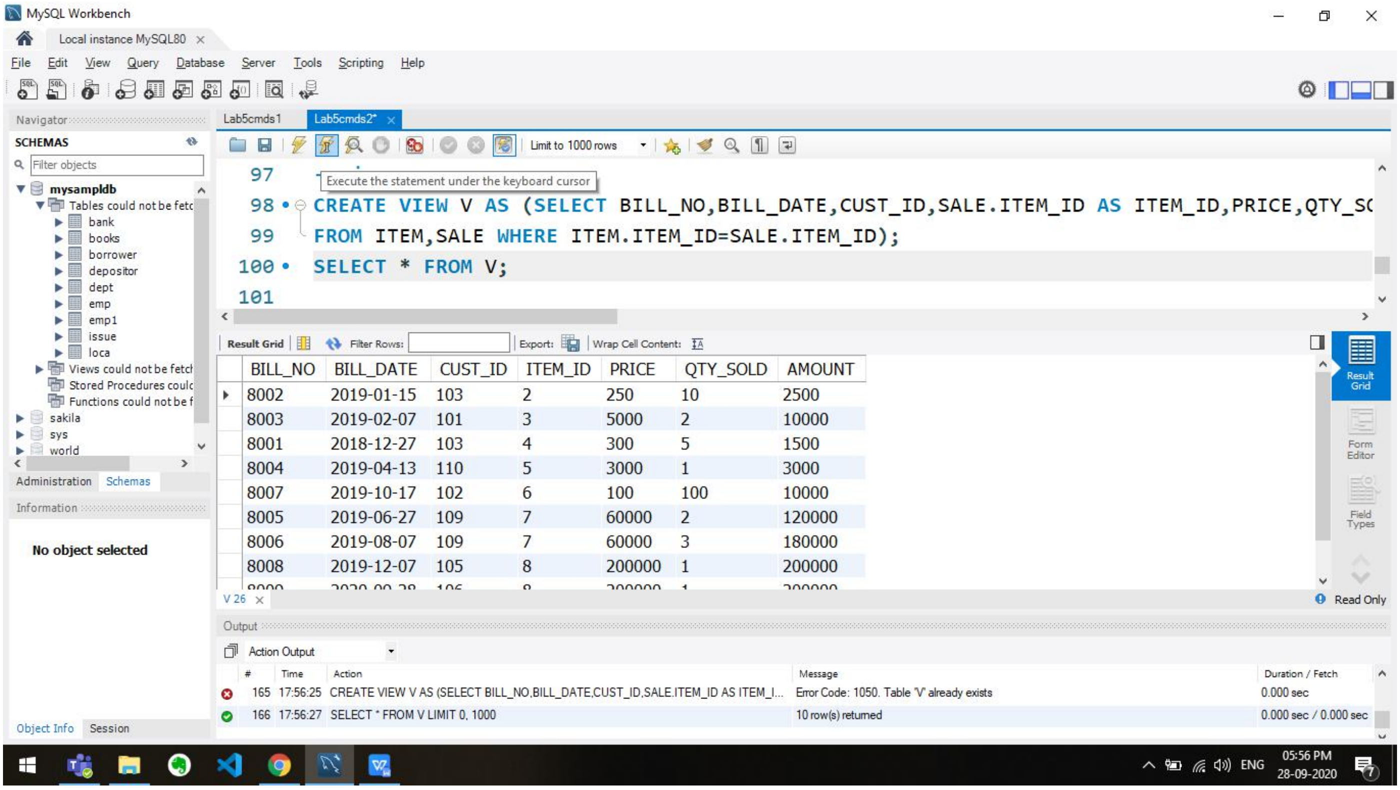
```
CREATE VIEW I AS (SELECT CUSTOMER.CUST_NAME,SUM(QTY_SOLD) FROM CUSTOMER,SALE WHERE CUST
SELECT * FROM I;

-- j
CREATE VIEW V AS (SELECT BILL_NO,BILL_DATE,CUST_ID,SALE.ITEM_ID AS ITEM_ID,PRICE,QTY_SC
```

CUST_NAME	SUM(QTY_SOLD)
Chan	15
Ahmed	2
Sam	1
Rahul	5
Bala	100
Easwar	1
Freddy	1
Harsh	1

```
#    Time      Action                          Message              Duration / Fetch
163  17:56:01  SELECT * FROM V LIMIT 0, 1000   10 row(s) returned   0.000 sec / 0.000 sec
164  17:56:08  SELECT * FROM I LIMIT 0, 1000   8 row(s) returned    0.000 sec / 0.000 sec
```

-- j

CREATE VIEW V AS (SELECT BILL_NO,BILL_DATE,CUST_ID,SALE.ITEM_ID AS ITEM_ID,PRICE,QTY_SOLD,(PRICE*QTY_SOLD) AS AMOUNT
FROM ITEM,SALE WHERE ITEM.ITEM_ID=SALE.ITEM_ID);
SELECT * FROM V;



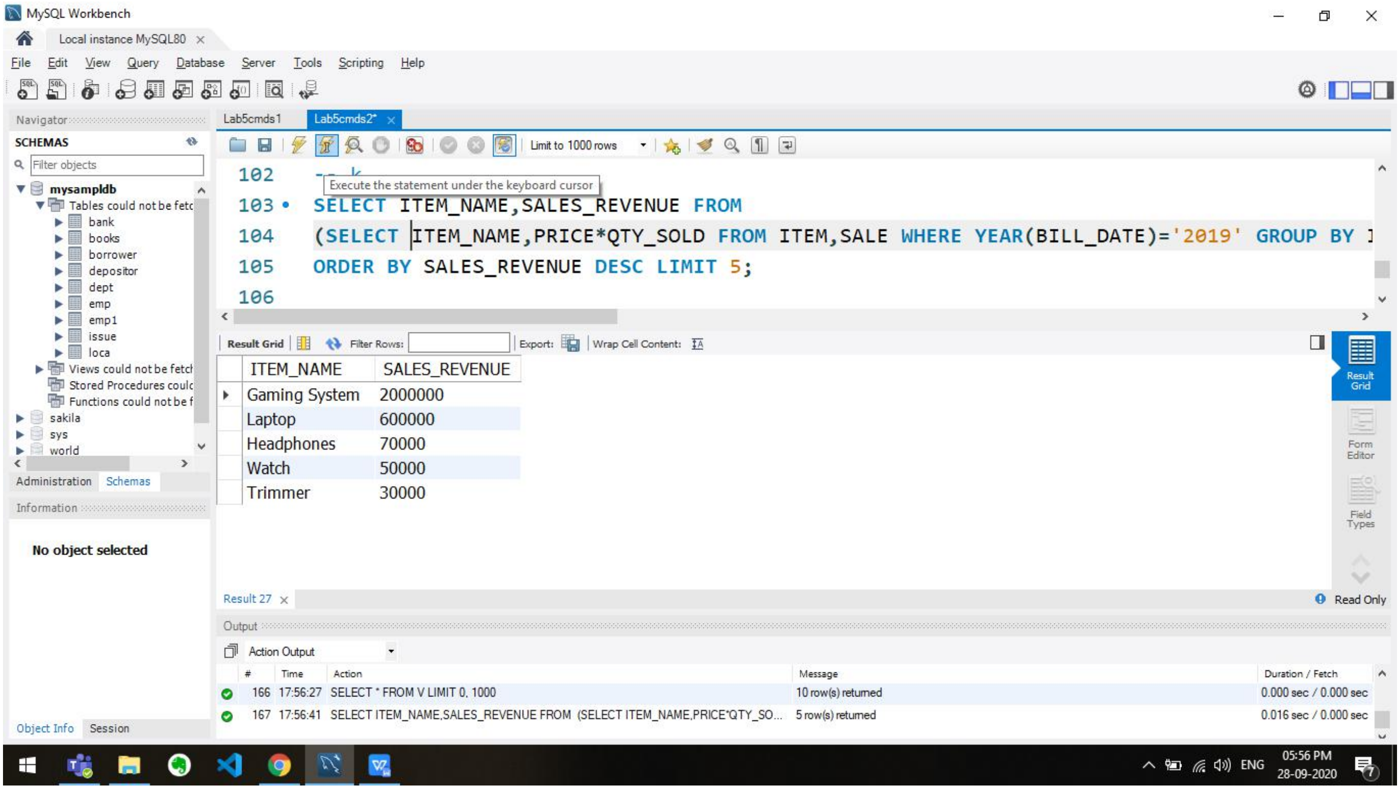
```
CREATE VIEW V AS (SELECT BILL_NO,BILL_DATE,CUST_ID,SALE.ITEM_ID AS ITEM_ID,PRICE,QTY_SC
FROM ITEM,SALE WHERE ITEM.ITEM_ID=SALE.ITEM_ID);
SELECT * FROM V;
```

BILL_NO	BILL_DATE	CUST_ID	ITEM_ID	PRICE	QTY_SOLD	AMOUNT
8002	2019-01-15	103	2	250	10	2500
8003	2019-02-07	101	3	5000	2	10000
8001	2018-12-27	103	4	300	5	1500
8004	2019-04-13	110	5	3000	1	3000
8007	2019-10-17	102	6	100	100	10000
8005	2019-06-27	109	7	60000	2	120000
8006	2019-08-07	109	7	60000	3	180000
8008	2019-12-07	105	8	200000	1	200000

```
#    Time      Action                                                          Message                                   Duration / Fetch
165  17:56:25  CREATE VIEW V AS (SELECT BILL_NO,BILL_DATE,CUST_ID,SALE.ITEM_ID AS ITEM_I...  Error Code: 1050. Table 'V' already exists  0.000 sec
166  17:56:27  SELECT * FROM V LIMIT 0, 1000                                   10 row(s) returned                        0.000 sec / 0.000 sec
```

-- k

SELECT ITEM_NAME,SALES_REVENUE FROM
(SELECT ITEM_NAME,PRICE*QTY_SOLD FROM ITEM,SALE WHERE YEAR(BILL_DATE)='2019'
GROUP BY ITEM_NAME) AS ITEM_SALES(ITEM_NAME,SALES_REVENUE)
ORDER BY SALES_REVENUE DESC LIMIT 5;



```
SELECT ITEM_NAME,SALES_REVENUE FROM
(SELECT ITEM_NAME,PRICE*QTY_SOLD FROM ITEM,SALE WHERE YEAR(BILL_DATE)='2019' GROUP BY I
ORDER BY SALES_REVENUE DESC LIMIT 5;
```

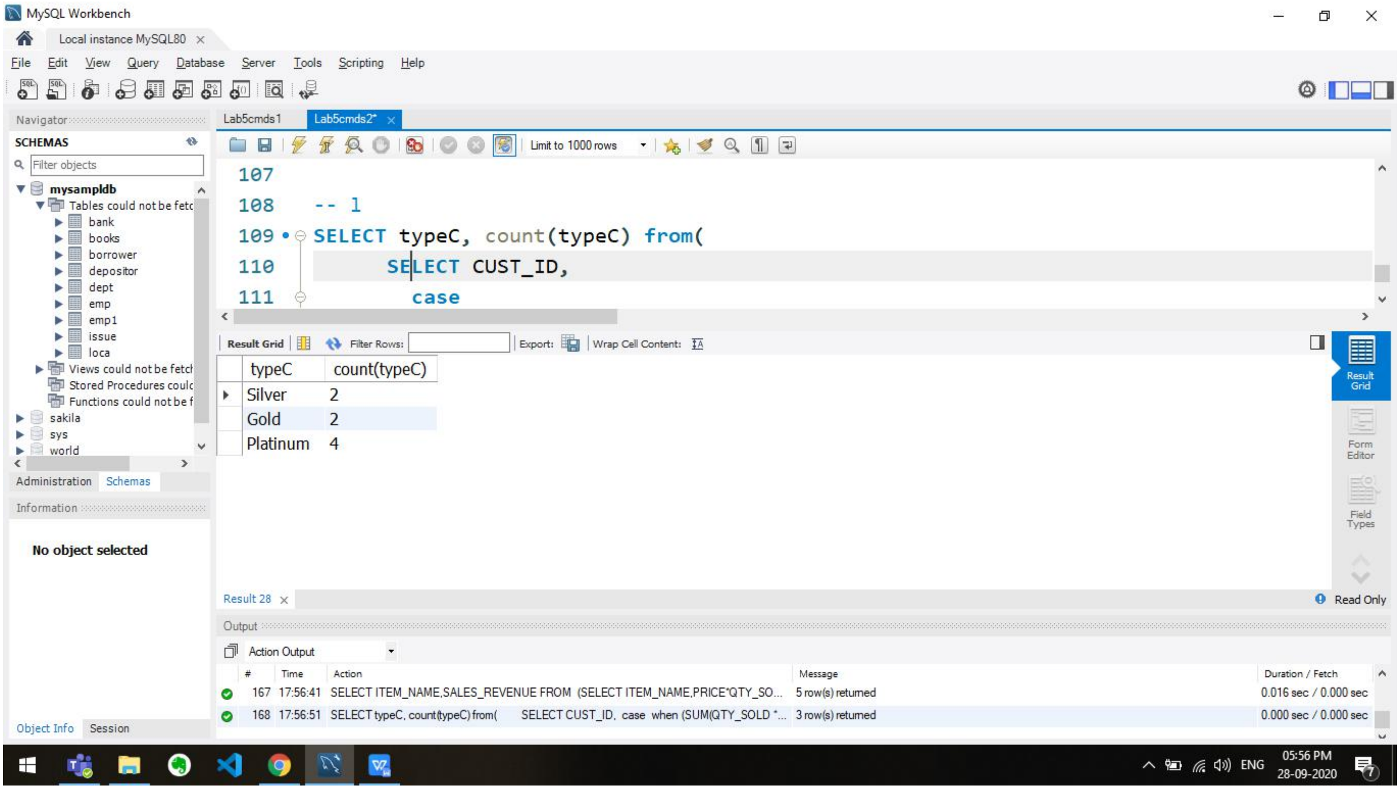
ITEM_NAME	SALES_REVENUE
Gaming System	2000000
Laptop	600000
Headphones	70000
Watch	50000
Trimmer	30000

```
#    Time      Action                                                                  Message             Duration / Fetch
166  17:56:27  SELECT * FROM V LIMIT 0, 1000                                           10 row(s) returned  0.000 sec / 0.000 sec
167  17:56:41  SELECT ITEM_NAME,SALES_REVENUE FROM  (SELECT ITEM_NAME,PRICE*QTY_SO...   5 row(s) returned   0.016 sec / 0.000 sec
```

-- l

SELECT typeC, count(typeC) from(

```
        SELECT CUST_ID,
        case
            when (SUM(QTY_SOLD * price) < 10000 )       then 'Silver'
            when (SUM(QTY_SOLD * price) >= 10000 AND SUM(QTY_SOLD * price) < 50000)
then 'Gold'
                when (SUM(QTY_SOLD * price) > 50000 )       then 'Platinum'
        end
        as typeC
        from SALE, ITEM
        where SALE.ITEM_ID = ITEM.item_id
           group by cust_id) AS cust_types
GROUP BY typeC;
```



```
-- 1
SELECT typeC, count(typeC) from(
      SELECT CUST_ID,
        case
```

typeC	count(typeC)
Silver	2
Gold	2
Platinum	4

```
#    Time      Action                                                                      Message            Duration / Fetch
167  17:56:41  SELECT ITEM_NAME,SALES_REVENUE FROM  (SELECT ITEM_NAME,PRICE*QTY_SO...       5 row(s) returned  0.016 sec / 0.000 sec
168  17:56:51  SELECT typeC, count(typeC) from(      SELECT CUST_ID,  case  when (SUM(QTY_SOLD *...  3 row(s) returned  0.000 sec / 0.000 sec
```