NORTHEASTERN UNIVERSITY

COLLEGE OF ENGINEERING

DAMG 6210

DATABASE MANAGEMENT AND DATABASE DESIGN (DMDD)

(UNDER PROFESSOR NAVEEN KURAGAYALA)

Project Topic- Order Fulfilment Database Management System

TEAM-5

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TABLE OF CONTENTS

1. Script for Admin:

```
show user;

PURGE Recyclebin;

SET SERVEROUTPUT ON;

DECLARE
  Is_true NUMBER;
BEGIN
  SELECT COUNT(*) INTO Is_true
  FROM all_users
  WHERE lower(username) = 'senior_manager';

  IF Is_true > 0 THEN
    EXECUTE IMMEDIATE 'DROP USER senior_manager CASCADE';
    DBMS_OUTPUT.PUT_LINE('User senior_manager dropped.');
  ELSE
    DBMS_OUTPUT.PUT_LINE('User senior_manager does not exist.');
  END IF;
END;
/

DECLARE
  Is_true NUMBER;
BEGIN
```

```sql
  SELECT COUNT(*) INTO Is_true
  FROM all_users
  WHERE lower(username) = 'ofd_customer_01';

  IF Is_true > 0 THEN
    EXECUTE IMMEDIATE 'DROP USER ofd_customer_01';
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_01 dropped.');
  ELSE
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_01 does not exist.');
  END IF;
END;
/

DECLARE
  Is_true NUMBER;
BEGIN
  SELECT COUNT(*) INTO Is_true
  FROM all_users
  WHERE lower(username) = 'ofd_customer_02';

  IF Is_true > 0 THEN
    EXECUTE IMMEDIATE 'DROP USER ofd_customer_02';
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_02 dropped.');
  ELSE
```

```
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_02 does not exist.');
  END IF;
END;
/


DECLARE
  Is_true NUMBER;
BEGIN
  SELECT COUNT(*) INTO Is_true
  FROM all_users
  WHERE lower(username) = 'ofd_customer_03';

  IF Is_true > 0 THEN
    EXECUTE IMMEDIATE 'DROP USER ofd_customer_03';
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_03 dropped.');
  ELSE
    DBMS_OUTPUT.PUT_LINE('User ofd_customer_03 does not exist.');
  END IF;
END;
/


DECLARE
  Is_true NUMBER;
BEGIN
```

```
SELECT COUNT(*) INTO Is_true

FROM all_users

WHERE lower(username) = 'ofd_supplier_01';


IF Is_true > 0 THEN

  EXECUTE IMMEDIATE 'DROP USER ofd_supplier_01';

  DBMS_OUTPUT.PUT_LINE('User ofd_supplier_01 dropped.');

ELSE

  DBMS_OUTPUT.PUT_LINE('User ofd_supplier_01 does not exist.');

END IF;

END;

/


DECLARE

  Is_true NUMBER;

BEGIN

  SELECT COUNT(*) INTO Is_true

  FROM all_users

  WHERE lower(username) = 'ofd_supplier_02';


IF Is_true > 0 THEN

  EXECUTE IMMEDIATE 'DROP USER ofd_supplier_02';

  DBMS_OUTPUT.PUT_LINE('User ofd_supplier_02 dropped.');

ELSE
```

```
      DBMS_OUTPUT.PUT_LINE('User ofd_supplier_02 does not exist.');
  END IF;
END;
/
```

---Created Users of the Database

---(SQL Developer of the Database)
```
create user senior_manager identified by DMDD_ofd2023;
alter user senior_manager quota unlimited on users;

grant connect, resource to senior_manager;
grant create any view to senior_manager;
commit;
```

---(Supplier to the organization)
```
create user ofd_supplier_01 identified by DMDD_ofd2023;
alter user ofd_supplier_01 quota unlimited on users;

grant connect, resource to ofd_supplier_01;
commit;

create user ofd_supplier_02 identified by DMDD_ofd2023;
```

```
alter user ofd_supplier_02 quota unlimited on users;


grant connect, resource to ofd_supplier_02;
commit;



---(Customer to the organization)
create user ofd_customer_01 identified by DMDD_ofd2023;
alter user ofd_customer_01 quota unlimited on users;


grant connect, resource to ofd_customer_01;
commit;



create user ofd_customer_02 identified by DMDD_ofd2023;
alter user ofd_customer_02 quota unlimited on users;


grant connect, resource to ofd_customer_02;
commit;



create user ofd_customer_03 identified by DMDD_ofd2023;
alter user ofd_customer_03 quota unlimited on users;
```

grant connect, resource to ofd_customer_03;

commit;

2. Script for Senior Manager:

show user;

---select * from user_tables;

Clean Up Code for all the Tables of database

PURGE Recyclebin;

SET SERVEROUTPUT ON;

declare

```
Is_true number;
begin
Select count (*)
INTO Is_true
From USER_TABLES WHERE TABLE_NAME = 'OFD_ORDER_DETAILS';
IF Is_true >0
THEN
EXECUTE IMMEDIATE 'DROP TABLE OFD_ORDER_DETAILS';
END IF;
END;
/
declare
Is_true number;
begin
Select count (*)
INTO Is_true
From USER_TABLES WHERE TABLE_NAME = 'OFD_ORDERS';
IF Is_true >0
THEN
EXECUTE IMMEDIATE 'DROP TABLE OFD_ORDERS';
END IF;
END;
/
declare
```

```
Is_true number;
begin
Select count (*)
INTO Is_true
From USER_TABLES WHERE TABLE_NAME = 'OFD_CUSTOMER';
IF Is_true >0
THEN
EXECUTE IMMEDIATE 'DROP TABLE OFD_CUSTOMER';
END IF;
END;
/

declare
Is_true number;
begin
Select count (*)
INTO Is_true
From USER_TABLES WHERE TABLE_NAME = 'OFD_PRODUCTS';
IF Is_true >0
THEN
EXECUTE IMMEDIATE 'DROP TABLE OFD_PRODUCTS';
END IF;
END;
/
```

```
declare

Is_true number;

begin

Select count (*)

INTO Is_true

From USER_TABLES WHERE TABLE_NAME = 'OFD_SUPPLIER';

IF Is_true >0

THEN

EXECUTE IMMEDIATE 'DROP TABLE OFD_SUPPLIER';

END IF;

END;

/

declare

Is_true number;

begin

Select count (*)

INTO Is_true

From USER_TABLES WHERE TABLE_NAME = 'OFD_CATEGORY';

IF Is_true >0

THEN

EXECUTE IMMEDIATE 'DROP TABLE OFD_CATEGORY';

END IF;

END;

/
```
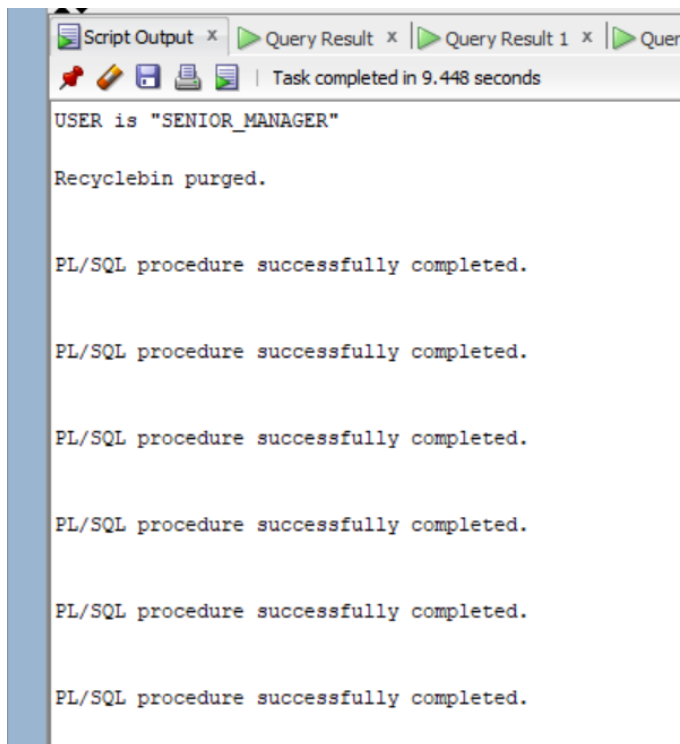
Script Output × | ▷ Query Result × | ▷ Query Result 1 × | ▷ Quer

★ ✓ 🖫 🖨 📄 | Task completed in 9.448 seconds

```
USER is "SENIOR_MANAGER"

Recyclebin purged.


PL/SQL procedure successfully completed.


PL/SQL procedure successfully completed.


PL/SQL procedure successfully completed.


PL/SQL procedure successfully completed.


PL/SQL procedure successfully completed.


PL/SQL procedure successfully completed.
```

TABLES CREATION (DDL Commands)

create table ofd_supplier (

supplier_id varchar(10) PRIMARY KEY,

supplier_name varchar(50) NOT NULL,

city varchar(50),

phone number(10) NOT NULL

)

/

create table ofd_category (

category_id varchar(10) PRIMARY KEY,

category_name varchar(50) DEFAULT 'General'

)

/

```sql
create table ofd_products(

product_id varchar(10) PRIMARY KEY,

product_name varchar(50) NOT NULL,

product_price number(10, 2) NOT NULL,

product_quantity number(10) NOT NULL,

supplier_id varchar(10) REFERENCES ofd_supplier(supplier_id),

category_id varchar(10) REFERENCES ofd_category(category_id)

)

/

create table ofd_customer (

customer_id varchar(10) constraint cpk PRIMARY KEY,

first_name varchar(40) NOT NULL,

last_name varchar(40),

email varchar(100) unique,

ssn number(10),

city varchar(40)

)

/

create table ofd_orders(

order_id varchar(10) constraint opk PRIMARY KEY,

date_of_purchase DATE DEFAULT SYSDATE,

customer_id varchar(10) references ofd_customer(customer_id),

payment_type    varchar(40)    CHECK(payment_type    in    ('Debit_Card',
'Credit_Card','Gift_Card'))

)
```

/

create table ofd_order_details (

order_details_id VARCHAR(10) constraint odpk PRIMARY KEY,

quantity number(10) NOT NULL,

product_id varchar(10) REFERENCES ofd_products(product_id),

order_id varchar(10) REFERENCES ofd_orders(order_id),

status varchar(40),

constraint cst CHECK(status in ('Completed', 'Cancelled', 'Confirmed')))

/

```
Table OFD_SUPPLIER created.

Table OFD_CATEGORY created.

Table OFD_PRODUCTS created.

Table OFD_CUSTOMER created.

Table OFD_ORDERS created.

Table OFD_ORDER_DETAILS created.
```

Grant permission to read and write in the database (DCL Command)

---Senior Manager

---Supplier User Permission

```
grant select, insert, update on ofd_supplier to ofd_supplier_01;

grant select on ofd_products to ofd_supplier_01;

grant select on ofd_category to ofd_supplier_01;


grant select, insert, update on ofd_supplier to ofd_supplier_02;

grant select on ofd_products to ofd_supplier_02;

grant select on ofd_category to ofd_supplier_02;
```

Customer User Permission (DDL Command)

```
grant select, insert, update on ofd_customer to ofd_customer_01;

grant select on ofd_orders to ofd_customer_01;

grant select on ofd_order_details to ofd_customer_01;


grant select, insert, update on ofd_customer to ofd_customer_02;

grant select on ofd_orders to ofd_customer_02;

grant select on ofd_order_details to ofd_customer_02;


grant select, insert, update on ofd_customer to ofd_customer_03;

grant select on ofd_orders to ofd_customer_03;

grant select on ofd_order_details to ofd_customer_03;
```
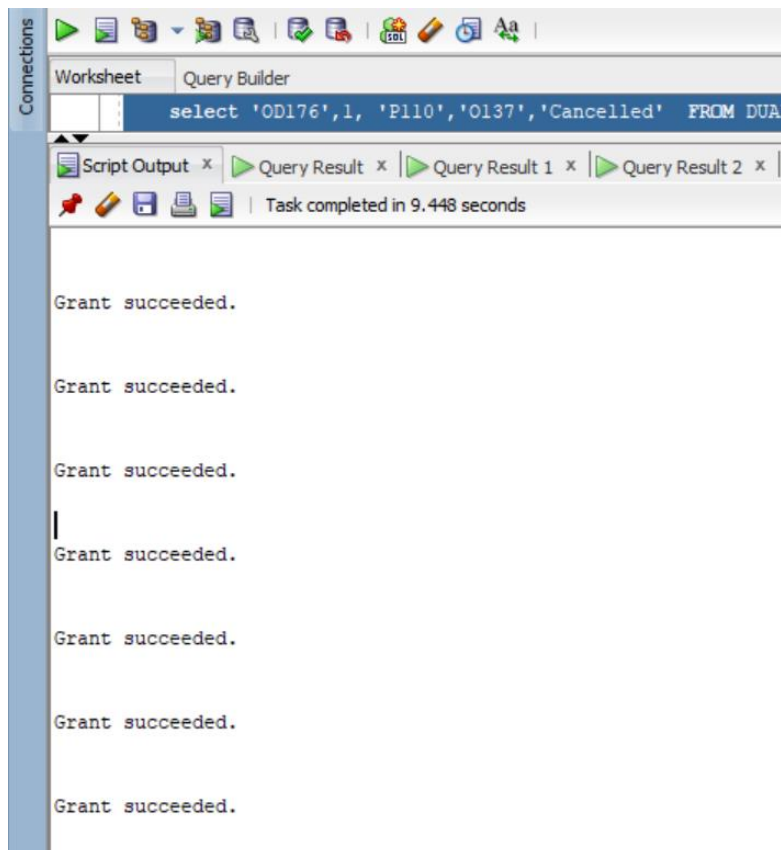
VIEWS CREATED

---Top_customers: This view provides a list of the top customers based on their total order value.

create or replace view ofd_top_customers as

```sql
select ROW_NUMBER() over (order by sum(od.quantity * p.product_price)
desc) as rownumber,

c.customer_id, c.first_name, c.last_name, sum(od.quantity * p.product_price)
as total_value,

count(distinct o.order_id) as total_orders

from ofd_orders o

join ofd_order_details od on o.order_id = od.order_id

join ofd_customer c on o.customer_id = c.customer_id

join ofd_products p on p.product_id = od.product_id

group by c.customer_id, c.first_name, c.last_name

order by total_value desc;


---grant select on ofd_top_customers to senior_manager;
```

---Orders_summary: This view aggregates information from the order and order_details tables to provide a summary of all orders and their associated products.

```sql
create or replace view ofd_orders_summary as

select    o.order_id,    o.date_of_purchase,    c.first_name,    c.last_name,
p.product_name, od.quantity, (od.quantity * p.product_price) as subtotal

from ofd_orders o

join ofd_customer c on o.customer_id = c.customer_id

join ofd_order_details od on o.order_id = od.order_id

join ofd_products p on od.product_id = p.product_id;
```

grant select on ofd_orders_summary to ofd_customer_01;

grant select on ofd_orders_summary to ofd_customer_02;

grant select on ofd_orders_summary to ofd_customer_03;

---Out_of_stock_products: This view lists all products that are currently out of stock.

```
create or replace view ofd_out_of_stock_products as

select * from (select p.product_id, p.product_name, s.supplier_name, ct.category_name, p.product_quantity as unit_in_stock

from ofd_products p

join ofd_supplier s on p.supplier_id = s.supplier_id

join ofd_category ct on p.category_id = ct.category_id)

where unit_in_stock = 0;
```

grant select on ofd_out_of_stock_products to ofd_supplier_01;

grant select on ofd_out_of_stock_products to ofd_supplier_02;

---Average_Order_Value: This view provides the average order value over the last week

```
create or replace view ofd_avg_order_value_last_week as

select p.product_name, avg(od.quantity * p.product_price) as avg_order_value
```

```
from ofd_orders o

join ofd_order_details od on o.order_id = od.order_id

join ofd_products p on od.product_id = p.product_id

where o.date_of_purchase >= trunc(sysdate) - 7

group by p.product_name;
```

---Product_sales_by_supplier: This view shows the total sales for each supplier in the inventory, sorted by descending order of sales volume.

```
create or replace view ofd_product_sales_by_supplier as

select s.supplier_name, SUM(od.quantity) as total_quantity, SUM(od.quantity
* p.product_price) as total_revenue

from ofd_supplier s

join ofd_products p on s.supplier_id = p.supplier_id

join ofd_order_details od on p.product_id = od.product_id

group by s.supplier_name

order by total_revenue desc;
```

---Sales_by_payment_type: This view show the total revenue generated by each payment method.

```
create or replace view ofd_sales_by_payment_type as

select o.payment_type, SUM(od.quantity * p.product_price) as total_revenue
```

from ofd_orders o

join ofd_order_details od ON o.order_id = od.order_id

join ofd_products p on od.product_id = p.product_id

group by o.payment_type

order by total_revenue desc;
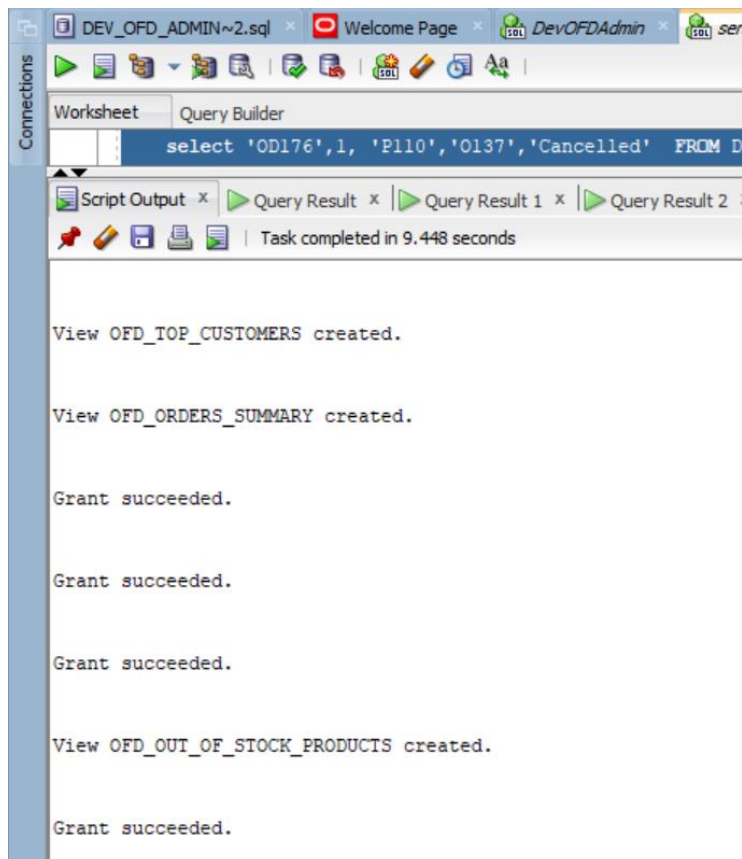
Insert data in all the tables(DML Commands):

insert into ofd_supplier (supplier_id ,supplier_name,city ,phone)

    select 'S101', 'home goods', 'Boston', 8574522785 from dual union all

    select 'S102', 'Wells furniture','Seattle',8887772222 from dual union all

    select 'S103', 'May Works','Portland',8887773333 from dual union all

    select 'S104', 'Kirchen Aid','Austin',8887774444 from dual union all

```
    select 'S105', 'Simple Modern ','Fermont',8887775555 from dual;
```

```
select * from ofd_supplier;
```

	SUPPLIER_ID	SUPPLIER_NAME	CITY	PHONE
1	S101	home goods	Boston	8574522785
2	S102	Wells furniture	Seattle	8887772222
3	S103	May Works	Portland	8887773333
4	S104	Kirchen Aid	Austin	8887774444
5	S105	Simple Modern	Fermont	8887775555

```
insert into ofd_category (category_id, category_name)
    select 'CT101', 'living room' from dual union all
    select 'CT102', 'Organization' from dual union all
    select 'CT103', ' Bedding' from dual union all
    select 'CT104', 'Cleaning Appliances' from dual union all
    select 'CT105', 'Kitchen Appliances' from dual union all
    select 'CT106', 'Home Appliances' from dual;

select * from ofd_category;
```

	CATEGORY_ID	CATEGORY_NAME
1	CT101	living room
2	CT102	Organization
3	CT103	Bedding
4	CT104	Cleaning Appliances
5	CT105	Kitchen Appliances
6	CT106	Home Appliances

insert into ofd_products (PRODUCT_ID, PRODUCT_NAME, PRODUCT_PRICE, PRODUCT_QUANTITY, SUPPLIER_ID, CATEGORY_ID)

```
select 'P101', 'Upholstered Sofa', 885.99, 50, 'S101', 'CT101' FROM DUAL UNION ALL

select 'P102', 'Futon', 437.99, 50, 'S101', 'CT101' FROM DUAL UNION ALL

select 'P103', 'Coffee Table', 253.99, 40, 'S101', 'CT101' FROM DUAL UNION ALL

select 'P104', 'Bookcase', 178.99, 40, 'S101', 'CT102' FROM DUAL UNION ALL

select 'P105', '3 Drawer Cabinet', 124.99, 25, 'S101', 'CT102' FROM DUAL UNION ALL

select 'P106', 'Queen Mattress', 160.99, 50, 'S102', 'CT103' FROM DUAL UNION ALL

select 'P107', 'Twin Mattress', 120.99, 80, 'S102', 'CT103' FROM DUAL UNION ALL

select 'P108', 'Comforter', 45.99, 100, 'S102', 'CT103' FROM DUAL UNION ALL

select 'P109', 'Bedsheet', 21.89, 0, 'S102', 'CT103' FROM DUAL UNION ALL

select 'P110', 'Quilt', 21.89, 4, 'S102', 'CT103' FROM DUAL UNION ALL
```

```sql
select 'P111', 'Upright Vacuum Cleaner', 90.79, 50, 'S103', 'CT104' FROM DUAL UNION ALL

select 'P112', 'Stick Vacuum Cleaner', 65.49, 60, 'S103', 'CT104' FROM DUAL UNION ALL

select 'P113', 'Robotic vacuum', 108.99, 120, 'S103', 'CT104' FROM DUAL UNION ALL

select 'P114', 'Steam Cleaner', 45.49, 0, 'S103', 'CT104' FROM DUAL UNION ALL

select 'P115', 'Steam Mop', 79.49, 55, 'S103', 'CT104' FROM DUAL UNION ALL

select 'P116', 'Microwave Oven', 119.99, 80, 'S104', 'CT105' FROM DUAL UNION ALL

select 'P117', 'Food Processor', 45.45, 60, 'S104', 'CT105' FROM DUAL UNION ALL

select 'P118', 'Air Fryer', 68.99, 90, 'S104', 'CT105' FROM DUAL UNION ALL

select 'P119', 'Home coffee machine', 105.89, 100, 'S104', 'CT105' FROM DUAL UNION ALL

select 'P120', 'Toaster', 20.49, 60, 'S104', 'CT105' FROM DUAL UNION ALL

select 'P121', 'Dishwasher', 464.99, 4, 'S105', 'CT106' FROM DUAL UNION ALL

select 'P122', 'Refrigerator', 650.89, 4, 'S105', 'CT106' FROM DUAL UNION ALL

select 'P123', 'Mini Refrigerator', 324.49, 4, 'S105', 'CT106' FROM DUAL UNION ALL

select 'P124', 'Range Hood', 324.49, 11, 'S105', 'CT106' FROM DUAL UNION ALL

select 'P125', 'Wine and Beverage Refrigerator', 227.99, 3, 'S105', 'CT106' FROM DUAL;
```

select * from ofd_products;

	PRODUCT_ID	PRODUCT_NAME	PRODUCT_PRICE	PRODUCT_QUANTITY	SUPPLIER_ID	CATEGORY_ID
1	P101	Upholstered Sofa	885.99	50	S101	CT101
2	P102	Futon	437.99	50	S101	CT101
3	P103	Coffee Table	253.99	40	S101	CT101
4	P104	Bookcase	178.99	40	S101	CT102
5	P105	3 Drawer Cabinet	124.99	25	S101	CT102
6	P106	Queen Mattress	160.99	50	S102	CT103
7	P107	Twin Mattress	120.99	80	S102	CT103
8	P108	Comforter	45.99	100	S102	CT103
9	P109	Bedsheet	21.89	0	S102	CT103
10	P110	Quilt	21.89	4	S102	CT103
11	P111	Upright Vacuum Cleaner	90.79	50	S103	CT104
12	P112	Stick Vacuum Cleaner	65.49	60	S103	CT104
13	P113	Robotic vacuum	108.99	120	S103	CT104
14	P114	Steam Cleaner	45.49	0	S103	CT104
15	P115	Steam Mop	79.49	55	S103	CT104
16	P116	Microwave Oven	119.99	80	S104	CT105
17	P117	Food Processor	45.45	60	S104	CT105
18	P118	Air Fryer	68.99	90	S104	CT105
19	P119	Home coffee machine	105.89	100	S104	CT105

insert into ofd_customer(customer_id ,first_name ,last_name ,email, ssn, city)

select 'C101', 'John', 'Cena', 'cenajohn@gmail.com', 4567, 'Boston' FROM DUAL UNION ALL

select 'C102', 'Steve', 'Austin', 'steaustin@yahoo.com', 5346, 'Austin' FROM DUAL UNION ALL

select 'C103', 'Alberto', 'Rio', 'rioalberto@rediff.com', 2648, 'New York' FROM DUAL UNION ALL

select 'C104', 'Roman', 'Reigns', 'rreigns@yahoo.com', 5545, 'Boston' FROM DUAL UNION ALL

select 'C105', 'Seth', 'Rollins', 'rollrockseth@yahoo.com', 4634, 'Cleveland' FROM DUAL UNION ALL

select 'C106', 'Brock', 'Lesnar', 'lesnarbrock@gmail.com', 6663, 'Portland' FROM DUAL UNION ALL
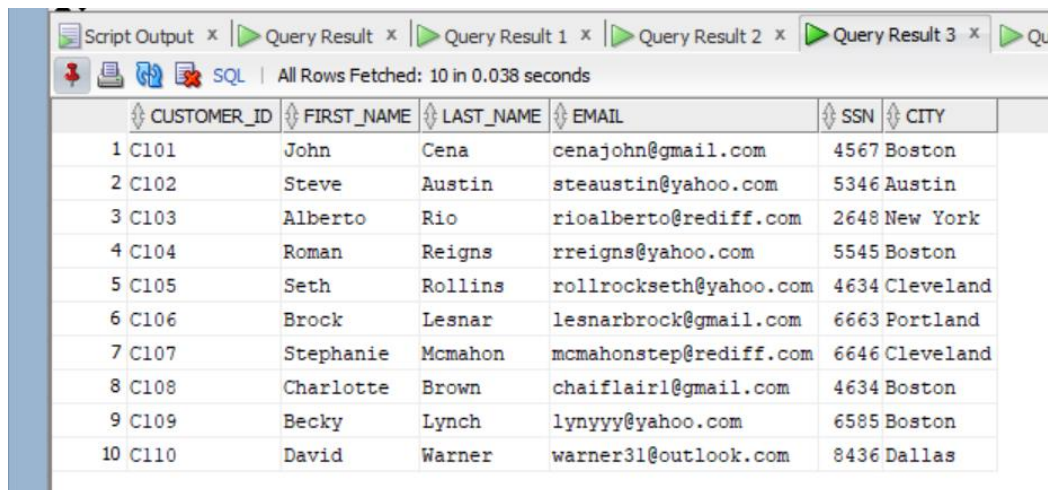
select 'C107', 'Stephanie', 'Mcmahon', 'mcmahonstep@rediff.com', 6646, 'Cleveland' FROM DUAL UNION ALL

select 'C108', 'Charlotte', 'Brown', 'chaiflair1@gmail.com', 4634, 'Boston' FROM DUAL UNION ALL

select 'C109', 'Becky', 'Lynch', 'lynyyy@yahoo.com', 6585, 'Boston' FROM DUAL UNION ALL

select 'C110', 'David', 'Warner', 'warner31@outlook.com', 8436, 'Dallas' FROM DUAL;

select * from ofd_customer;

	CUSTOMER_ID	FIRST_NAME	LAST_NAME	EMAIL	SSN	CITY
1	C101	John	Cena	cenajohn@gmail.com	4567	Boston
2	C102	Steve	Austin	steaustin@yahoo.com	5346	Austin
3	C103	Alberto	Rio	rioalberto@rediff.com	2648	New York
4	C104	Roman	Reigns	rreigns@yahoo.com	5545	Boston
5	C105	Seth	Rollins	rollrockseth@yahoo.com	4634	Cleveland
6	C106	Brock	Lesnar	lesnarbrock@gmail.com	6663	Portland
7	C107	Stephanie	Mcmahon	mcmahonstep@rediff.com	6646	Cleveland
8	C108	Charlotte	Brown	chaiflairl@gmail.com	4634	Boston
9	C109	Becky	Lynch	lynyyy@yahoo.com	6585	Boston
10	C110	David	Warner	warner31@outlook.com	8436	Dallas

Script Output × | Query Result × | Query Result 1 × | Query Result 2 × | Query Result 3 × | Qu
SQL | All Rows Fetched: 10 in 0.038 seconds

insert into ofd_orders(order_id ,date_of_purchase ,customer_id ,payment_type)

select 'O101','02/April/2023', 'C101', 'Credit_Card' FROM DUAL UNION ALL

select 'O102','28/January/2023', 'C101','Credit_Card' FROM DUAL UNION ALL

select 'O103','02/February/2023', 'C101','Credit_Card' FROM DUAL UNION ALL

select 'O104','03/January/2023', 'C102','Credit_Card' FROM DUAL UNION ALL

select 'O105','02/February/2023', 'C102','Credit_Card' FROM DUAL UNION ALL

select 'O106','28/February/2023', 'C102','Credit_Card' FROM DUAL UNION ALL

```
   select 'O107','28/February/2023', 'C102','Credit_Card' FROM DUAL UNION
ALL

   select 'O108','03/March/2023', 'C102','Credit_Card' FROM DUAL UNION ALL

   select 'O109','21/March/2023', 'C103','Credit_Card' FROM DUAL UNION ALL

   select 'O110','07/February/2023', 'C103','Credit_Card' FROM DUAL UNION
ALL

   select 'O111','17/February/2023', 'C103','Credit_Card' FROM DUAL UNION
ALL

   select 'O112','17/February/2023', 'C103','Credit_Card' FROM DUAL UNION
ALL

   select 'O113','04/February/2023', 'C104','Credit_Card' FROM DUAL UNION
ALL

   select 'O114','07/February/2023', 'C104','Credit_Card' FROM DUAL UNION
ALL

   select 'O115','03/March/2023', 'C104','Credit_Card' FROM DUAL UNION ALL

   select 'O116','01/January/2023', 'C104','Credit_Card' FROM DUAL UNION
ALL

   select 'O117','03/February/2023', 'C104','Credit_Card' FROM DUAL UNION
ALL

   select 'O118','03/February/2023', 'C105','Credit_Card' FROM DUAL UNION
ALL

   select 'O119','04/February/2023', 'C105','Credit_Card' FROM DUAL UNION
ALL

   select 'O120','06/February/2023', 'C105','Credit_Card' FROM DUAL UNION
ALL

   select 'O121','09/February/2023', 'C105','Credit_Card' FROM DUAL UNION
ALL
```

```sql
select 'O122','15/February/2023', 'C105','Credit_Card' FROM DUAL UNION ALL
select 'O123','20/February/2023', 'C105','Credit_Card' FROM DUAL UNION ALL
select 'O124','02/January/2023', 'C106','Credit_Card' FROM DUAL UNION ALL
select 'O125','24/January/2023', 'C106','Credit_Card' FROM DUAL UNION ALL
select 'O126','29/January/2023', 'C106','Credit_Card' FROM DUAL UNION ALL
select 'O127','04/January/2023', 'C107','Credit_Card' FROM DUAL UNION ALL
select 'O128','03/February/2023', 'C107','Credit_Card' FROM DUAL UNION ALL
select 'O129','02/February/2023', 'C108','Debit_Card' FROM DUAL UNION ALL
select 'O130','15/March/2023', 'C109','Gift_Card' FROM DUAL UNION ALL
select 'O131','20/March/2023', 'C109','Credit_Card' FROM DUAL UNION ALL
select 'O132','04/January/2023', 'C110','Credit_Card' FROM DUAL UNION ALL
select 'O134','02/February/2023', 'C110','Credit_Card' FROM DUAL UNION ALL
select 'O135','10/February/2023', 'C110','Credit_Card' FROM DUAL UNION ALL
select 'O136','24/February/2023', 'C110','Credit_Card' FROM DUAL UNION ALL
select 'O137','03/March/2023', 'C110','Gift_Card' FROM DUAL UNION ALL
select 'O138','13/March/2023', 'C110','Debit_Card' FROM DUAL UNION ALL
```

select 'O139','15/March/2023', 'C110','Debit_Card' FROM DUAL UNION ALL

select 'O140','17/March/2023', 'C110','Credit_Card' FROM DUAL ;

select * from ofd_orders;

	ORDER_ID	DATE_OF_PURCHASE	CUSTOMER_ID	PAYMENT_TYPE
1	O101	02-04-23	C101	Credit_Card
2	O102	28-01-23	C101	Credit_Card
3	O103	02-02-23	C101	Credit_Card
4	O104	03-01-23	C102	Credit_Card
5	O105	02-02-23	C102	Credit_Card
6	O106	28-02-23	C102	Credit_Card
7	O107	28-02-23	C102	Credit_Card
8	O108	03-03-23	C102	Credit_Card
9	O109	21-03-23	C103	Credit_Card
10	O110	07-02-23	C103	Credit_Card
11	O111	17-02-23	C103	Credit_Card
12	O112	17-02-23	C103	Credit_Card
13	O113	04-02-23	C104	Credit_Card
14	O114	07-02-23	C104	Credit_Card
15	O115	03-03-23	C104	Credit_Card
16	O116	01-01-23	C104	Credit_Card
17	O117	03-02-23	C104	Credit_Card
18	O118	03-02-23	C105	Credit_Card
19	O119	04-02-23	C105	Credit_Card

insert into ofd_order_details(order_details_id ,quantity ,product_id ,order_id,status)

select 'OD102',2, 'P102','O101','Completed' FROM DUAL UNION ALL

select 'OD103',2, 'P103','O102','Completed' FROM DUAL UNION ALL

select 'OD104',2, 'P104','O103','Cancelled' FROM DUAL UNION ALL

select 'OD105',2, 'P107','O103','Cancelled' FROM DUAL UNION ALL

select 'OD106',1, 'P106','O103','Cancelled' FROM DUAL UNION ALL

select 'OD107',1, 'P103','O104','Confirmed' FROM DUAL UNION ALL

select 'OD108',3, 'P109','O105','Completed' FROM DUAL UNION ALL

select 'OD109',5, 'P110','O106','Confirmed' FROM DUAL UNION ALL

```sql
select 'OD110',3, 'P103','O107','Completed' FROM DUAL UNION ALL
select 'OD111',2, 'P112','O108','Confirmed' FROM DUAL UNION ALL
select 'OD112',1, 'P103','O108','Confirmed' FROM DUAL UNION ALL
select 'OD113',2, 'P104','O109','Completed' FROM DUAL UNION ALL
select 'OD114',1, 'P105','O109','Completed' FROM DUAL UNION ALL
select 'OD115',1, 'P106','O109','Completed' FROM DUAL UNION ALL
select 'OD116',1, 'P107','O109','Completed' FROM DUAL UNION ALL
select 'OD117',3, 'P110','O110','Cancelled' FROM DUAL UNION ALL
select 'OD118',2, 'P109','O110','Cancelled' FROM DUAL UNION ALL
select 'OD119',1, 'P110','O111','Completed' FROM DUAL UNION ALL
select 'OD120',1, 'P111','O112','Completed' FROM DUAL UNION ALL
select 'OD121',2, 'P112','O113','Completed' FROM DUAL UNION ALL
select 'OD122',3, 'P113','O113','Completed'  FROM DUAL UNION ALL
select 'OD123',1, 'P114','O113','Completed' FROM DUAL UNION ALL
select 'OD124',2, 'P115','O113','Completed'  FROM DUAL UNION ALL
select 'OD125',1, 'P116','O114','Confirmed' FROM DUAL UNION ALL
select 'OD126',1, 'P117','O114','Confirmed'  FROM DUAL UNION ALL
select 'OD127',1, 'P118','O114','Confirmed' FROM DUAL UNION ALL
select 'OD128',1, 'P119','O114','Confirmed'  FROM DUAL UNION ALL
select 'OD129',4, 'P120','O114','Confirmed'  FROM DUAL UNION ALL
select 'OD130',2, 'P121','O115','Confirmed'  FROM DUAL UNION ALL
select 'OD131',1, 'P122','O115','Confirmed'  FROM DUAL UNION ALL
select 'OD132',1, 'P123','O116','Confirmed'  FROM DUAL UNION ALL
select 'OD133',2, 'P124','O116','Confirmed'  FROM DUAL UNION ALL
```

```sql
select 'OD134',1, 'P125','O116','Confirmed'  FROM DUAL UNION ALL
select 'OD135',1, 'P115','O117','Completed'  FROM DUAL UNION ALL
select 'OD136',3, 'P112','O117','Completed'  FROM DUAL UNION ALL
select 'OD137',2, 'P120','O117','Completed'  FROM DUAL UNION ALL
select 'OD138',1, 'P107','O118','Completed'  FROM DUAL UNION ALL
select 'OD139',1, 'P110','O119','Completed'  FROM DUAL UNION ALL
select 'OD140',1, 'P109','O120','Completed'  FROM DUAL UNION ALL
select 'OD141',2, 'P110','O121','Confirmed'  FROM DUAL UNION ALL
select 'OD142',3, 'P111','O121','Confirmed'  FROM DUAL UNION ALL
select 'OD143',2, 'P112','O122','Completed'  FROM DUAL UNION ALL
select 'OD144',1, 'P113','O123','Completed'  FROM DUAL UNION ALL
select 'OD145',1, 'P119','O124','Completed'  FROM DUAL UNION ALL
select 'OD146',2, 'P120','O125','Confirmed'  FROM DUAL UNION ALL
select 'OD147',1, 'P121','O125','Confirmed'  FROM DUAL UNION ALL
select 'OD148',1, 'P122','O125','Confirmed'  FROM DUAL UNION ALL
select 'OD149',2, 'P123','O126','Completed'  FROM DUAL UNION ALL
select 'OD150',1, 'P124','O126','Completed'  FROM DUAL UNION ALL
select 'OD151',2, 'P125','O126','Completed'  FROM DUAL UNION ALL
select 'OD152',1, 'P105','O127','Completed'  FROM DUAL UNION ALL
select 'OD153',2, 'P106','O127','Completed'  FROM DUAL UNION ALL
select 'OD154',1, 'P107','O127','Completed'  FROM DUAL UNION ALL
select 'OD155',1, 'P110','O127','Completed'  FROM DUAL UNION ALL
select 'OD156',1, 'P105','O128','Completed'  FROM DUAL UNION ALL
select 'OD157',1, 'P110','O129','Completed'  FROM DUAL UNION ALL
```

```sql
select 'OD158',1, 'P111','O129','Completed'  FROM DUAL UNION ALL
select 'OD159',1, 'P112','O129','Completed'  FROM DUAL UNION ALL
select 'OD160',2, 'P113','O130','Confirmed'  FROM DUAL UNION ALL
select 'OD161',2, 'P105','O130','Confirmed'  FROM DUAL UNION ALL
select 'OD162',1, 'P106','O130','Confirmed'  FROM DUAL UNION ALL
select 'OD163',1, 'P107','O131','Cancelled'  FROM DUAL UNION ALL
select 'OD164',1, 'P110','O131','Cancelled'  FROM DUAL UNION ALL
select 'OD165',1, 'P105','O132','Completed'  FROM DUAL UNION ALL
select 'OD166',1, 'P119','O132','Completed'  FROM DUAL UNION ALL
select 'OD167',2, 'P120','O132','Completed'  FROM DUAL UNION ALL
select 'OD168',2, 'P121','O132','Completed'  FROM DUAL UNION ALL
select 'OD169',1, 'P122','O132','Completed'  FROM DUAL UNION ALL
select 'OD170',1, 'P123','O134','Confirmed'  FROM DUAL UNION ALL
select 'OD171',4, 'P124','O134','Confirmed'  FROM DUAL UNION ALL
select 'OD172',2, 'P125','O135','Completed'  FROM DUAL UNION ALL
select 'OD173',1, 'P105','O135','Completed'  FROM DUAL UNION ALL
select 'OD174',2, 'P106','O136','Completed'  FROM DUAL UNION ALL
select 'OD175',3, 'P107','O136','Completed'  FROM DUAL UNION ALL
select 'OD176',1, 'P110','O137','Cancelled'  FROM DUAL UNION ALL
select 'OD177',2, 'P105','O138','Cancelled'  FROM DUAL UNION ALL
select 'OD178',1, 'P110','O139','Completed'  FROM DUAL UNION ALL
select 'OD179',1, 'P111','O140','Completed'  FROM DUAL;


select * from ofd_order_details;
```

Fetched 50 rows in 0.045 seconds

	ORDER_DETAILS_ID	QUANTITY	PRODUCT_ID	ORDER_ID	STATUS
1	OD102	2	P102	O101	Completed
2	OD103	2	P103	O102	Completed
3	OD104	2	P104	O103	Cancelled
4	OD105	2	P107	O103	Cancelled
5	OD106	1	P106	O103	Cancelled
6	OD107	1	P103	O104	Confirmed
7	OD108	3	P109	O105	Completed
8	OD109	5	P110	O106	Confirmed
9	OD110	3	P103	O107	Completed
10	OD111	2	P112	O108	Confirmed
11	OD112	1	P103	O108	Confirmed
12	OD113	2	P104	O109	Completed
13	OD114	1	P105	O109	Completed
14	OD115	1	P106	O109	Completed
15	OD116	1	P107	O109	Completed
16	OD117	3	P110	O110	Cancelled
17	OD118	2	P109	O110	Cancelled
18	OD119	1	P110	O111	Completed
19	OD120	1	P111	O112	Completed

--- SQL Devloper accessing views for business

select * from ofd_top_customers;

	ROWNUMBER	CUSTOMER_ID	FIRST_NAME	LAST_NAME	TOTAL_VALUE	TOTAL_ORDERS
1	1	C110	David	Warner	5125.65	8
2	2	C104	Roman	Reigns	4183.97	5
3	3	C106	Brock	Lesnar	2692.2	3
4	4	C101	John	Cena	2144.91	3
5	5	C102	Steve	Austin	1576.05	5
6	6	C103	Alberto	Rio	987.08	4
7	7	C109	Becky	Lynch	771.83	2
8	8	C105	Seth	Rollins	720.89	6
9	9	C107	Stephanie	Mcmahon	714.84	2
10	10	C108	Charlotte	Brown	178.17	1

select * from ofd_orders_summary;

	ORDER_ID	DATE_OF_PURCHASE	FIRST_NAME	LAST_NAME	PRODUCT_NAME	QUANTITY	SUBTOTAL
1	0101	02-04-23	John	Cena	Futon	2	875.98
2	0102	28-01-23	John	Cena	Coffee Table	2	507.98
3	0103	02-02-23	John	Cena	Bookcase	2	357.98
4	0103	02-02-23	John	Cena	Twin Mattress	2	241.98
5	0103	02-02-23	John	Cena	Queen Mattress	1	160.99
6	0104	03-01-23	Steve	Austin	Coffee Table	1	253.99
7	0105	02-02-23	Steve	Austin	Bedsheet	3	65.67
8	0106	28-02-23	Steve	Austin	Quilt	5	109.45
9	0107	28-02-23	Steve	Austin	Coffee Table	3	761.97
10	0108	03-03-23	Steve	Austin	Stick Vacuum Cleaner	2	130.98
11	0108	03-03-23	Steve	Austin	Coffee Table	1	253.99
12	0109	21-03-23	Alberto	Rio	Bookcase	2	357.98
13	0109	21-03-23	Alberto	Rio	3 Drawer Cabinet	1	124.99
14	0109	21-03-23	Alberto	Rio	Queen Mattress	1	160.99
15	0109	21-03-23	Alberto	Rio	Twin Mattress	1	120.99
16	0110	07-02-23	Alberto	Rio	Quilt	3	65.67
17	0110	07-02-23	Alberto	Rio	Bedsheet	2	43.78
18	0111	17-02-23	Alberto	Rio	Quilt	1	21.89
19	0112	17-02-23	Alberto	Rio	Upright Vacuum Cleaner	1	90.79

select * from ofd_out_of_stock_products;

	PRODUCT_ID	PRODUCT_NAME	SUPPLIER_NAME	CATEGORY_NAME	UNIT_IN_STOCK
1	P109	Bedsheet	Wells furniture	Bedding	0
2	P114	Steam Cleaner	May Works	Cleaning Appliances	0

select * from ofd_avg_order_value_last_week;

	PRODUCT_NAME	AVG_ORDER_VALUE
1	3 Drawer Cabinet	124.99
2	Quilt	21.89
3	Bookcase	357.98
4	Twin Mattress	120.99
5	Upright Vacuum Cleaner	90.79
6	Queen Mattress	160.99
7	Futon	875.98

select * from ofd_sales_by_payment_type;

	PAYMENT_TYPE	TOTAL_REVENUE
1	Credit_Card	17994.71
2	Gift_Card	650.84
3	Debit_Card	450.04

select * from ofd_product_sales_by_supplier;

	SUPPLIER_NAME	TOTAL_QUANTITY	TOTAL_REVENUE
1	Simple Modern	24	8986.96
2	home goods	22	4494.78
3	Wells furniture	39	2719.31
4	May Works	26	2137.54
5	Kirchen Aid	16	757

---select * from user_tables;

commit;

3. Script for Customer:

---Customer can read/write in customer table

select * from senior_manager.ofd_customer;

	CUSTOMER_ID	FIRST_NAME	LAST_NAME	EMAIL	SSN	CITY
1	C101	John	Cena	cenajohn@gmail.com	4567	Boston
2	C102	Steve	Austin	steaustin@yahoo.com	5346	Austin
3	C103	Alberto	Rio	rioalberto@rediff.com	2648	New York
4	C104	Roman	Reigns	rreigns@yahoo.com	5545	Boston
5	C105	Seth	Rollins	rollrockseth@yahoo.com	4634	Cleveland
6	C106	Brock	Lesnar	lesnarbrock@gmail.com	6663	Portland
7	C107	Stephanie	Mcmahon	mcmahonstep@rediff.com	6646	Cleveland
8	C108	Charlotte	Brown	chaiflairl@gmail.com	4634	Boston
9	C109	Becky	Lynch	lynyyy@yahoo.com	6585	Boston
10	C110	David	Warner	warner31@outlook.com	8436	Dallas

;

---Customer only read orders and order_details table

---Customer don't have access to supplier, products and category table

select * from senior_manager.ofd_orders;

	ORDER_ID	DATE_OF_PURCHASE	CUSTOMER_ID	PAYMENT_TYPE
1	O101	02-04-23	C101	Credit_Card
2	O102	28-01-23	C101	Credit_Card
3	O103	02-02-23	C101	Credit_Card
4	O104	03-01-23	C102	Credit_Card
5	O105	02-02-23	C102	Credit_Card
6	O106	28-02-23	C102	Credit_Card
7	O107	28-02-23	C102	Credit_Card
8	O108	03-03-23	C102	Credit_Card
9	O109	21-03-23	C103	Credit_Card
10	O110	07-02-23	C103	Credit_Card
11	O111	17-02-23	C103	Credit_Card
12	O112	17-02-23	C103	Credit_Card
13	O113	04-02-23	C104	Credit_Card
14	O114	07-02-23	C104	Credit_Card
15	O115	03-03-23	C104	Credit_Card
16	O116	01-01-23	C104	Credit_Card
17	O117	03-02-23	C104	Credit_Card
18	O118	03-02-23	C105	Credit_Card
19	O119	04-02-23	C105	Credit_Card

select * from senior_manager.ofd_order_details;

	ORDER_DETAILS_ID	QUANTITY	PRODUCT_ID	ORDER_ID	STATUS
1	OD102	2	P102	O101	Completed
2	OD103	2	P103	O102	Completed
3	OD104	2	P104	O103	Cancelled
4	OD105	2	P107	O103	Cancelled
5	OD106	1	P106	O103	Cancelled
6	OD107	1	P103	O104	Confirmed
7	OD108	3	P109	O105	Completed
8	OD109	5	P110	O106	Confirmed
9	OD110	3	P103	O107	Completed
10	OD111	2	P112	O108	Confirmed
11	OD112	1	P103	O108	Confirmed

---Customer can read from the Order_Summary view to know the order summary

select * from senior_manager.ofd_orders_summary;

	ORDER_ID	DATE_OF_PURCHASE	FIRST_NAME	LAST_NAME	PRODUCT_NAME	QUANTITY	SUBTOTAL
1	O101	02-04-23	John	Cena	Futon	2	875.98
2	O102	28-01-23	John	Cena	Coffee Table	2	507.98
3	O103	02-02-23	John	Cena	Bookcase	2	357.98
4	O103	02-02-23	John	Cena	Twin Mattress	2	241.98
5	O103	02-02-23	John	Cena	Queen Mattress	1	160.99
6	O104	03-01-23	Steve	Austin	Coffee Table	1	253.99
7	O105	02-02-23	Steve	Austin	Bedsheet	3	65.67
8	O106	28-02-23	Steve	Austin	Quilt	5	109.45
9	O107	28-02-23	Steve	Austin	Coffee Table	3	761.97
10	O108	03-03-23	Steve	Austin	Stick Vacuum Cleaner	2	130.98
11	O108	03-03-23	Steve	Austin	Coffee Table	1	253.99
12	O109	21-03-23	Alberto	Rio	Bookcase	2	357.98
13	O109	21-03-23	Alberto	Rio	3 Drawer Cabinet	1	124.99
14	O109	21-03-23	Alberto	Rio	Queen Mattress	1	160.99
15	O109	21-03-23	Alberto	Rio	Twin Mattress	1	120.99
16	O110	07-02-23	Alberto	Rio	Quilt	3	65.67
17	O110	07-02-23	Alberto	Rio	Bedsheet	2	43.78
18	O111	17-02-23	Alberto	Rio	Quilt	1	21.89

4. Script for Supplier:

show user;

```
Task completed in 1.852 seconds
USER is "OFD_SUPPLIER_01"
>>Query Run In:Query Result

1 row inserted.

>>Query Run In:Query Result 1
>>Query Run In:Query Result 2
>>Query Run In:Query Result 3
>>Query Run In:Query Result 4
```

---Supplier can read/write in supplier table

select * from senior_manager.ofd_supplier;

	SUPPLIER_ID	SUPPLIER_NAME	CITY	PHONE
1	S101	home goods	Boston	8574522785
2	S102	Wells furniture	Seattle	8887772222
3	S103	May Works	Portland	8887773333
4	S104	Kirchen Aid	Austin	8887774444
5	S105	Simple Modern	Fermont	8887775555

---Supplier only read products and category table

---Supplier don't have access to customer, orders and order_details table

select * from senior_manager.ofd_products;

	PRODUCT_ID	PRODUCT_NAME	PRODUCT_PRICE	PRODUCT_QUANTITY	SUPPLIER_ID	CATEGORY_ID
1	P101	Upholstered Sofa	885.99	50	S101	CT101
2	P102	Futon	437.99	50	S101	CT101
3	P103	Coffee Table	253.99	40	S101	CT101
4	P104	Bookcase	178.99	40	S101	CT102
5	P105	3 Drawer Cabinet	124.99	25	S101	CT102
6	P106	Queen Mattress	160.99	50	S102	CT103
7	P107	Twin Mattress	120.99	80	S102	CT103
8	P108	Comforter	45.99	100	S102	CT103
9	P109	Bedsheet	21.89	0	S102	CT103

select * from senior_manager.ofd_category;

	CATEGORY_ID	CATEGORY_NAME
1	CT101	living room
2	CT102	Organization
3	CT103	Bedding
4	CT104	Cleaning Appliances
5	CT105	Kitchen Appliances
6	CT106	Home Appliances

---Supplier can read from the Out_of_stock_products view to know which products are out of stock

select * from senior_manager.ofd_out_of_stock_products;

	PRODUCT_ID	PRODUCT_NAME	SUPPLIER_NAME	CATEGORY_NAME	UNIT_IN_STOCK
1	P109	Bedsheet	Wells furniture	Bedding	0
2	P114	Steam Cleaner	May Works	Cleaning Appliances	0

5. Security

There are three roles in our project:

Administrator-

The security role of the administrator in ensuring security within an Order Fulfillment Database Management System is critical. As the highest level of access, the administrator has the ability to view and manage all aspects of the

system, including sensitive information such as product details to payment of the orders.

Customer-

Customers have limited access within an Order Fulfillment Database Management System, their role in maintaining security is still important. As the end user, primary security concerns for customers is the protection of their payment information. While customers can only access information about the orders they have made, this information still includes payment details such as credit card numbers and billing addresses.

Supplier-

The security role of suppliers within an Order Fulfillment Database Management System is critical to maintaining the integrity and safety of the products sold on the platform. As suppliers have access to information about the products and categories they supply, they have a responsibility to ensure that their products are safe, high-quality, and compliant with any relevant regulations or standards.