

## DATABASES ASSIGNMENT 1

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Q.1. The tables have been populated each having atleast 10 entries.

Q.2.

```
update registered_users
set Cust_Name = 'Anonymous',Mail_ID = NULL,Pass = NULL
where User_I = 384;
```

```
update past_orders
set Rating = NULL,Review = NULL
where User_I = 384;
```

```
delete from cart
where User_I = 384;
```

```
delete from delivery
where User_I = 384;
```

```
delete from search_history
where User_I = 384;
```

```
select * from registered_users
```

User_I	Cust_Name	Mail_ID	Pass	Reg_Date
51	Rakesh	cust3@gmail.com	klmno	2019-06-08
55	Raman	cust6@gmail.com	kuhjy	2015-06-07
101	Harshil	cust@gmail.com	abcde	2001-02-01
365	Rohit	cust9@gmail.com	kuhjy	2016-06-14
384	Anonymous	NULL	NULL	2014-06-04
487	Sangeeta	cust11@gmail.com	kiujhy	2019-04-18
489	Kartik	cust10@gmail.com	kuhjy	2018-04-17
657	Abhay	cust8@gmail.com	kuhjy	2019-11-15
687	Komal	cust5@gmail.com	uvwxy	2017-11-15
967	Sam	cust2@gmail.com	fghij	2008-08-06
987	Kaushal	cust7@gmail.com	kuhjy	2014-03-08

Q.3.

```
update products
set Price = 0.9*Price
where Product_ID in
(select Product_ID from
(select T.Product_Id, views, Price from
(select Product_ID, count(*) as views from search_history group by Product_ID) as T
join products on T.Product_ID = products.Product_ID) as R
where R.views<10 and R.Price>5000);
```

```
select * from products
```

Product_ID	Product_Type	Retailer_Name	Quantity_left	Date_when_added	Price	Product_Description	Product_Name
51	Electronics	Ikea	15	2017-03-24	61000	NULL	Dell Inspiron Laptop
101	Book	Ikea	10	2018-03-02	5200	NULL	The Lost Symbol
102	Book	ram	12	2020-02-06	1500	NULL	Harry Porter
103	Book	ram	5	2019-09-19	3050	NULL	The Book Thief
104	Book	ramesh	15	2016-07-18	7500	NULL	The Ends of World
105	Book	abhay	34	2020-02-03	500	NULL	Living with a Seal
107	Electronics	Ikea	2	2020-01-01	26100	NULL	Orade Smartphone
108	Electronics	yash	12	2018-03-02	52000	NULL	HP Pavilion Laptop
109	Electronics	ramesh	50	2018-08-04	16000	NULL	Vivo Z1 Pro
110	Electronics	abhay	14	2019-06-30	90000	NULL	Apple Macbook Air
111	Furniture	yash	16	2020-02-01	120000	NULL	Sofa
112	Furniture	ram	18	2019-12-31	10000	NULL	Armchair
113	Furniture	ramesh	16	2019-04-01	28000	NULL	Bed
114	Furniture	Ikea	24	2018-11-09	15600	NULL	Cradle
115	Furniture	abhay	1	2019-10-01	13050	NULL	Table
116	Book	abhay	5	2018-11-05	1200	NULL	Start Again
117	Book	ram	4	2005-02-01	5412	NULL	Lost in Battle
118	Book	ramesh	6	2016-08-04	2450	NULL	Perfect Fake
119	Book	ram	15	2018-03-05	1456	NULL	Elegantly Wasted
120	Book	yash	25	2017-09-16	1987	NULL	Hate Burns
121	Electronics	abhay	15	2019-06-30	2000	NULL	Redmi Note 7
122	Electronics	ram	14	2020-02-01	5000	NULL	Asus Predator
123	Electronics	ramesh	12	2019-12-31	20000	NULL	Asus Laptop
124	Electronics	ram	9	2019-04-01	48600	NULL	HP Omen Laptop
125	Electronics	yash	11	2018-11-09	24300	NULL	Motorola Z5
126	Furniture	abhay	17	2018-11-05	1000	NULL	Cabinet
127	Furniture	ram	16	2005-02-01	2000	NULL	Game Table
128	Furniture	ramesh	18	2016-08-04	3000	NULL	Deck Chair
129	Furniture	ram	15	2018-03-05	4500	NULL	Hall Tree
130	Furniture	yash	20	2017-09-16	6500	NULL	Big Bed

Q.4.

```

INSERT INTO delivery(Ind,User_I,Delivery_Address,City)
VALUES (11,101,'chdbfuyebfy','Lucknow');

INSERT INTO delivery(Ind,User_I,Delivery_Address,City)
VALUES (12,101,'yrbvgbrfubf','Ahemdabad');

select * from delivery

```

Ind	User_I	Delivery_Address	City
1	101	bcgvc	Mumbai
3	51	behbeh	Kolkata
4	967	cjfbhf	Chennai
5	687	cecneun	Mumbai
6	55	jirbbfkb	Mumbai
7	987	ehfbdjds	Delhi
8	657	vhbvhrbh	Kolkata
9	365	ndjfhbsb	Chennai
10	489	hvrbhjf	Mumbai
11	101	chdbfuyebfy	Lucknow
12	101	yrbvgbrfubf	Ahemd...

Q.5.

```
select Retailer_Name,Mail from retailer
where City = 'Delhi'
```

Retailer_Name	Mail
ram	xyz@gmail.com
abhay	user2@gmail.com
harish	user7@gmail.com

Q.6.

```
select DISTINCT Mail_ID,T.User_I,R.Cust_Name from (select User_I,SUM(Total_Amount) as Total from past_orders
group by User_I having Total>=5000) as T join (select User_I,Mail_ID,City,Cust_Name from registered_users natural join delivery) as R on T.User_I = R.User_I
where City = 'Mumbai'
```

Mail_ID
cust@gmail.com
cust5@gmail.com
cust6@gmail.com

Q.7.

```
select Product_Name from products
where Product_Name like '%le%'
```

Product_Name
Oracle Smartphone
Apple Macbook Air
Cradle
Table
Lost in Battle
Elegantly Wasted
Game Table

Q.8.

```
select User_I,T.Product_ID,Order_ID,Purchase_Date, Product_Name from (select User_I,Product_ID,Order_ID,Purchase_Date from past_orders
where User_I = (select User_I from registered_users order by Reg_Date LIMIT 1)) as T join products on T.Product_ID = products.Product_ID
```

User_I	Product_ID	Order_ID	Purchase_Date	Product_Name
101	51	1000	2019-02-01	Dell Inspiron Laptop
101	108	1000	2017-06-24	HP Pavilion Laptop
101	107	1009	2016-06-19	Oracle Smartphone

Q.9.

```
select User_I,T.Product_ID,Product_Name from (select User_I,Product_ID from cart
where User_I = (select User_I from registered_users order by Reg_Date LIMIT 1 OFFSET 1)) as T join products on T.Product_ID = products.Product_ID
```

User_I	Product_ID	Product_Name
967	51	Dell Inspiron Laptop
967	107	Oracle Smartphone

Q.10.

```
select Book_Name
from product_books
where Year_Published > 2001
```

Book_Name
Harry Porter
Lost in Battle
The Book Thief
The Ends of World

Q.11.

```
select Product_Type,Product_Name,Price from products
where Price between 10000 and 20000 and Product_Type = 'Electronics';
```

Product_Type	Product_Name	Price
Electronics	Vivo Z1 Pro	16000
Electronics	Asus Laptop	20000

Q.12.

```
select Product_ID,Product_Name from products
where Retailer_Name = 'Ikea' and Product_Type = 'Furniture'
```

Product_ID	Product_Name
114	Cradle

Q.13.

```
select T.Product_ID, T.Product_Name, Category, Price from (select Product_ID,Product_Name,Category from product_elec where Category = 'Laptop') as T
join products on T.Product_ID = products.Product_ID
order by Price
```

Product_ID	Product_Name	Category	Price
122	Asus Predator	Laptop	5000
123	Asus Laptop	Laptop	20000
124	HP Omen Laptop	Laptop	48600
108	HP Pavilion Laptop	Laptop	52000
51	Dell Inspiron Laptop	Laptop	61000
110	Apple Macbook Air	Laptop	90000

Q.14.

```
select Product_Name from products where Date_when_added > '2019-07-27'
```

Product_Name
Harry Porter
The Book Thief
Living with a Seal
Oracle Smartphone
Sofa
Armchair
Table
Asus Predator
Asus Laptop

Q.15.

```
select Book_Name from product_books  
where Author='Franz Kafka'
```

Book_Name
The Book Thief

Q.16.

```
select User_I,Mail_ID from cart natural join registered_users  
where Quantity < 3
```

User_I	Mail_ID
101	cust@gmail.com
51	cust3@gmail.com

Q.17.

Interpretation 1: Ordering by the quantity of each of the products within a specific Order ID

```
select Order_ID, sum(Quantity) as quantity from past_orders group by Order_ID  
order by quantity desc LIMIT 1
```

Order_ID	quantity
1000	6

Interpretation 2: Ordering by the total unique number of products within a specific Order ID

```
select Order_ID, COUNT(*) as total_no_of_products from past_orders group by Order_ID  
order by total_no_of_products desc LIMIT 1
```

Order_ID	total_no_of_products
1000	2

Q.18.

```
select Product_Name from products where Date_when_added > '2020-01-30'
```

Product_Name
Harry Porter
Living with a Seal
Sofa
Asus Predator

Q.19.

```
select Retailer_ID from products natural join past_orders natural join retailer  
where User_I = 55
```

Retailer_ID
1
3

Q.20.

```
CREATE TABLE Diwali_Deals  
select * from products;  
  
update Diwali_Deals  
set Price = 0.95 * Price  
where Date_when_added > '2019-12-08';  
  
select * from Diwali_Deals
```

Product_ID	Product_Type	Retailer_Name	Quantity_Left	Date_when_added	Price	Product_Description	Product_Name
51	Electronics	Ikea	15	2017-03-24	61000	NULL	Dell Inspiron Laptop
101	Book	Ikea	10	2017-03-02	5200	NULL	The Lost Symbol
102	Book	ram	12	2020-02-06	1354	NULL	Harry Porter
103	Book	ram	5	2019-09-19	3050	NULL	The Book Thief
104	Book	ramesh	15	2016-07-18	7500	NULL	The End of World
105	Book	abhay	34	2020-02-03	451	NULL	Living with a Seal
107	Electronics	Ikea	2	2020-01-01	26173	NULL	Orade Smartphone
108	Electronics	yash	12	2018-03-02	52000	NULL	HP Pavilion Laptop
109	Electronics	ramesh	50	2018-08-04	16000	NULL	Vivo Z1 Pro
110	Electronics	abhay	14	2019-06-30	90000	NULL	Apple Macbook Air
111	Furniture	yash	16	2020-02-01	108300	NULL	Sofa
112	Furniture	ram	18	2019-12-31	9025	NULL	Armchair
113	Furniture	ramesh	16	2019-04-01	28000	NULL	Bed
114	Furniture	Ikea	24	2018-11-09	15600	NULL	Cradle
115	Furniture	abhay	1	2019-10-01	14500	NULL	Table

Q.21. We see the past orders and the search history of the database and look for the views of the products by user 101. We then multiply the views of past products by 4 and add it with the views in the search history of the user and add the two and then select the top 10 products and give it as recommendations.

```
create table dummy1
(
select T.User_I,T.Product_ID,4*count(*) as Views from (select User_I,Product_ID from search_history
having User_I = 101) as T group by Product_ID);

create table dummy2
(
select User_I,Product_ID,Views from past_orders
where User_I = 101);

update dummy1
set Views = Views+10
where Product_ID = 51;

update dummy1
set Views = Views+13
where Product_ID = 108;

update dummy1
set Views = Views+19
where Product_ID = 107;

select Product_Name,Product_ID from dummy1 natural join products
order by Views desc
limit 10;
```

### Top 10 Recommendations

Product_Name	Product_ID
Dell Inspiron Laptop	51
Orade Smartphone	107
HP Pavilion Laptop	108
Perfect Fake	118
Elegantly Wasted	119
Hate Burns	120
Redmi Note 7	121
Asus Predator	122
Asus Laptop	123
HP Omen Laptop	124