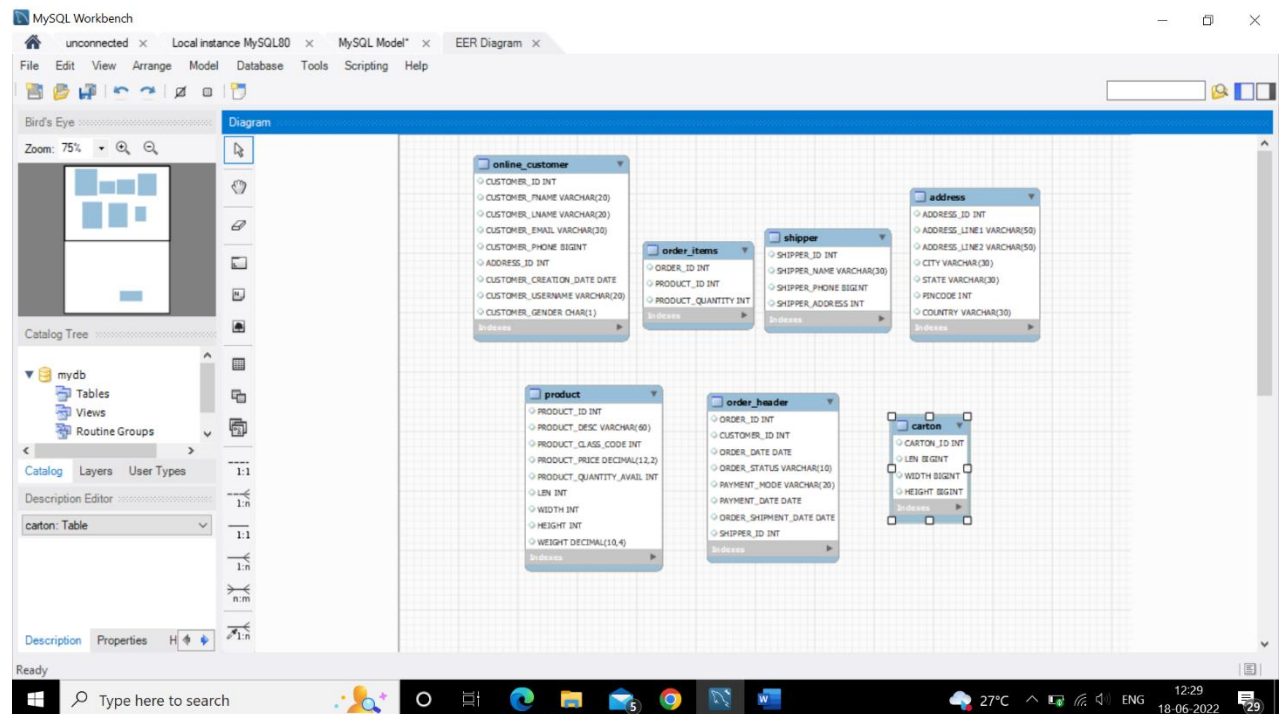


SQL PROJECT:

INTRODUCTION:

As a hired person for the online retail store “Reliant retail limited” I have tried to find answers to the following as per given by the company in order for them to make better data driven decision that will improve the growth of the company.

THE GIVEN EER TABLE:



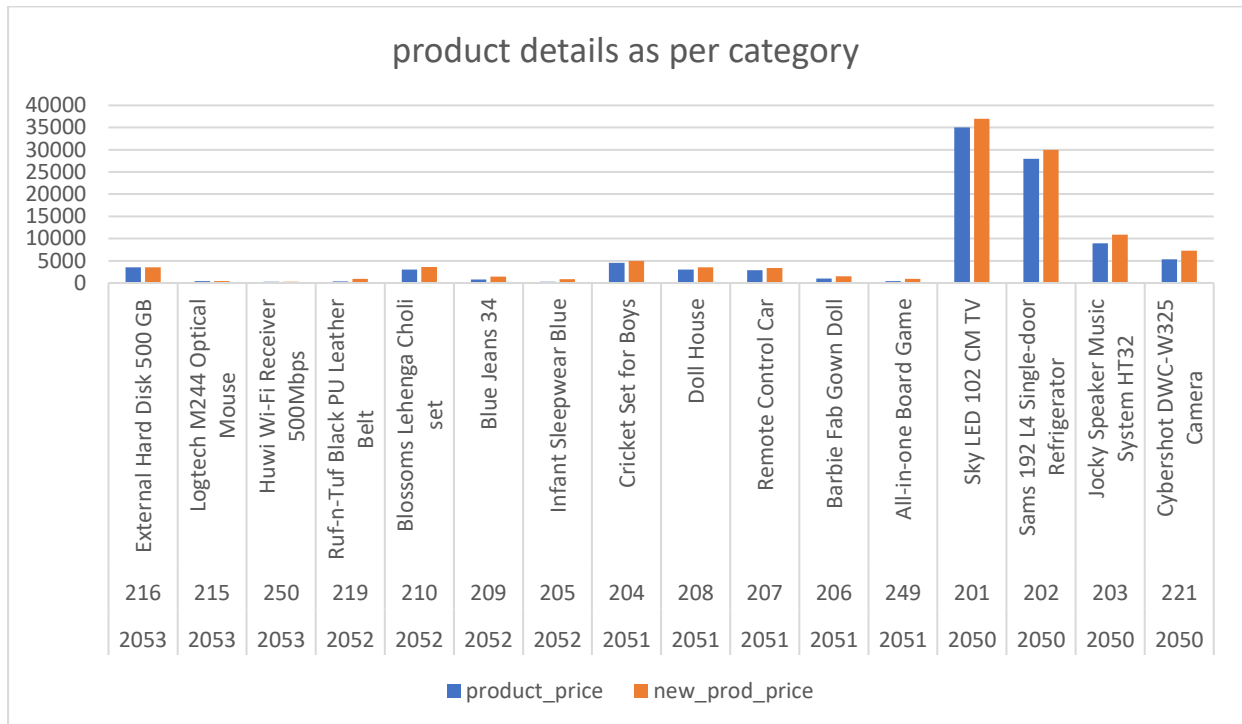
TASKS/ANSWER:

QUESTION 1:

CODE:

```
use orders;
select product_class_code, product_id, product_desc, product_price,
case
    WHEN product_class_code = 2050 then product_price + 2000
    WHEN product_class_code = 2051 then product_price + 500
    when product_class_code = 2052 then product_price + 600
    else product_price
END as new_prod_price
from product order by product_class_code desc;
```

From the above code we see how we can obtain values for the products as per the given criteria. According to the question we are told to get values with a given specified condition. Hence for this such problems we use **CASE** query where we can provide numerous conditions. This statement goes through condition and if value the value is met it will return the result. But if none of the conditions are met then it will return value in else statement. And it ends as new_product_price.



From the above graph we infer that how there is a difference between the initial price and new_prod_price after we provide the condition of increase in price of category 2050, 2051, 2052 In descending order. We can also see how product of category 2050 have maximum product price for SKY LED.

OUTPUT(60 outputs):

product_class_code	product_id	product_desc	product_price	new_prod_price
3002	99992	Tom Clancy's Ghost Recon: Future Soldier (PC Game)	999	999
3002	99991	Dell Targus Synergy 2.0 Backpack	999	999
3002	99993	Nokia 1280 (Black)	999	999
3001	99994	HP Deskjet 2050 All-in-One - J510a Printer	3749	3749
3001	99995	LG MS-2049UW Solo Microwave	4800	4800
3001	99996	Nokia Asha 200 (Graphite)	4070	4070
3000	99998	Nikon Coolpix L810 Bridge	14987	14987
3000	99997	Sony Xperia U (Black White)	16499	16499
3000	99999	Samsung Galaxy Tab 2 P3100	19300	19300
3000	99990	Quanta 4 Port USB Hub	500	500
2060	223	Sams 21L Microwave Oven	6880	6880
2060	225	Solmo Non-stick Sandwich Maker 750 W	1625	1625
2060	224	Phils HL 7430 Mixer Grinder 750W	2265	2265
2060	227	Phils Wah Collection Juicer JM12	2029	2029
2060	222	KitchAsst Siphon Coffee Maker 500 ml	1790	1790
2060	226	Solmo Hand Blender Fibre	1415	1415
2059	220	Hello Kitty Lunch Bag	199	199
2059	234	FLUFF Tote Travel Bag 35LTR	3290	3290
2059	233	HP ODC School Bag 2.5'	799	799
2059	232	Women Hand Bag	1600	1600
2059	231	HP ODC Laptop Bag 15.5	3390	3390
2058	245	GreenWud Nova Pedestal Unit	2500	2500
2058	244	Foldable Premium Chair	4000	4000
2058	243	Supreme Fusion Cupboard 02TB	3000	3000
2058	242	GreenWud CT-NO-PR Coffee Table	3500	3500
2057	217	Titan Karishma Watch	3497	3497
2057	229	Disney Analog Watch	1600	1600
2057	228	Adidas Analog Watch	2295	2295
2057	230	Esprit Analog Watch	3495	3495
2056	218	Shell Fingertip Ball Pen	25	25
2056	236	Solo Exam SB-01 Writing Pad	350	350
2056	238	Kasyo DJ-2100 Desktop Calculator	338	338
2056	240	4M Post It Pad 3.5	35	35
2056	235	Cindy HMPOC Pencil Box (Multicolor)	80	80
2056	239	TRANS 2D A4 Size Box File	120	120
2056	241	PK Copier A4 75 GSM White Paper Ream	285	285
2056	237	Zamark Color Pencil Art Set	100	100
2055	212	Samsung Galaxy On6	14000	14000
2055	211	OnePlus 6 Smart Phone	32500	32500
2054	214	Harry Potter	250	250
2054	213	Alchemist	150	150
2054	246	Exam Warriors	100	100
2054	247	Small Is Beautiful	140	140
2054	248	To Kill a Mocking Bird	210	210
2053	216	External Hard Disk 500 GB	3500	3500
2053	215	Logtech M244 Optical Mouse	450	450
2053	250	Huwi Wi-Fi Receiver 500Mbps	287	287
2052	219	Ruf-n-Tuf Black PU Leather Belt	350	950
2052	210	Blossoms Lehenga Choli set	3000	3600
2052	209	Blue Jeans 34	800	1400
2052	205	Infant Sleepwear Blue	250	850
2051	204	Cricket Set for Boys	4500	5000
2051	208	Doll House	3000	3500
2051	207	Remote Control Car	2900	3400
2051	206	Barbie Fab Gown Doll	1000	1500
2051	249	All-in-one Board Game	450	950
2050	201	Sky LED 102 CM TV	35000	37000
2050	202	Sams 192 L4 Single-door Refrigerator	28000	30000
2050	203	Jocky Speaker Music System HT32	8900	10900
2050	221	Cybershot DWC-W325 Camera	5300	7300

QUESTION 2:

CODE:

```
use orders;
select pc.product_class_desc, p.product_id,p.product_desc, p.product_quantity_avail,p.product_class_code,pc.product_class_code,
CASE
WHEN p.product_quantity_avail = 0 then 'OUT OF STOCK'
  when pc.product_class_desc in ('computers', 'electronics') then
    case when p.product_quantity_avail <= 10 then 'low stock'
      when p.product_quantity_avail between 11 and 30 then 'in stock'
      when p.product_quantity_avail >= 31 then 'ENOUGH STOCK'
    end
  when pc.product_class_desc in ('stationary','clothes') then
    case when p.product_quantity_avail <= 20 then 'low stock'
      when p.product_quantity_avail between 21 and 80 then 'in stock'
      when p.product_quantity_avail > 81 then 'enough stuck'
    end
  when pc.product_class_desc not in ('computers', 'electronics', 'stationary','clothes') then
    case when p.product_quantity_avail <= 15 then 'low stock'
      when p.product_quantity_avail between 16 and 50 then 'in stock'
      when p.product_quantity_avail >= 51 then 'enough stock'
    end
end
END as status from product p join product_class pc using(product_class_code);
```

From the above code we find out the amount of stock is available for the given conditions. Like for category of (computers, electronics) we find out low stock, in stock and enough stock. Similarly for the product_class_desc of ('stationary','clothes').

For this problem we use query CASE/END statement. Here we use a nested statement since we have condition for each category. For the case statement we ('computers', 'electronics', 'stationary','clothes'), we must find the quantity_avail for the rest of the category.Its easier to discard the values in the category ('computers', 'electronics', 'stationary','clothes').

We infer from the table that most of the products kitchen items and stationary contribute to **low stock**. The major contributor to in stock are books, promotion high value commodities.And the remaining that contribute to in stock includes promotion low and medium values and have enoigh stock for appearels.

OUTPUT:

product_class_desc	product_id	product_desc	product_quantity_avail	product_class_code	product_class_code2	status
Promotion-High Value	99999	Samsung Galaxy Tab 2 P3100	50	3000	3000	in stock
Promotion-High Value	99998	Nikon Coolpix L810 Bridge	50	3000	3000	in stock
Promotion-High Value	99997	Sony Xperia U (Black White)	50	3000	3000	in stock
Promotion-Medium Value	99994	HP Deskjet 2050 All-in-One - J510a Printer	100	3001	3001	enough stock
Promotion-Medium Value	99995	LG MS-2049UW Solo Microwave	100	3001	3001	enough stock
Promotion-Medium Value	99996	Nokia Asha 200 (Graphite)	100	3001	3001	enough stock
Promotion-Low Value	99991	Dell Targus Synergy 2.0 Backpack	250	3002	3002	enough stock
Promotion-Low Value	99992	Tom Clancy's Ghost Recon: Future Soldier (PC Game)	250	3002	3002	enough stock
Promotion-Low Value	99993	Nokia 1280 (Black)	250	3002	3002	enough stock
Electronics	201	Sky LED 102 CM TV	30	2050	2050	in stock
Electronics	202	Sams 192 L4 Single-door Refrigerator	15	2050	2050	in stock
Electronics	203	Jocky Speaker Music System HT32	19	2050	2050	in stock
Toys	204	Cricket Set for Boys	10	2051	2051	low stock
Clothes	205	Infant Sleepwear Blue	50	2052	2052	in stock
Toys	206	Barbie Fab Gown Doll	20	2051	2051	in stock
Toys	207	Remote Control Car	29	2051	2051	in stock
Toys	208	Doll House	12	2051	2051	low stock
Clothes	209	Blue Jeans 34	100	2052	2052	enough stock
Clothes	210	Blossoms Lehenga Choli set	100	2052	2052	enough stock
Mobiles	211	OnePlus 6 Smart Phone	25	2055	2055	in stock
Mobiles	212	Samsung Galaxy On6	20	2055	2055	in stock
Books	213	Alchemist	50	2054	2054	in stock
Books	214	Harry Potter	50	2054	2054	in stock
Computer	215	Logtech M244 Optical Mouse	10	2053	2053	low stock
Computer	216	External Hard Disk 500 GB	10	2053	2053	low stock
Watches	217	Titan Karishma Watch	35	2057	2057	in stock
Stationery	218	Shell Fingertip Ball Pen	150	2056	2056	enough stock
Clothes	219	Ruf-n-Tuf Black PU Leather Belt	50	2052	2052	in stock
Bags	220	Hello Kitty Lunch Bag	15	2059	2059	low stock
Electronics	221	Cybershot DWC-W325 Camera	5	2050	2050	low stock
Kitchen Items	222	KitchAsst Siphon Coffee Maker 500 ml	10	2060	2060	low stock
Kitchen Items	223	Sams 21L Microwave Oven	5	2060	2060	low stock
Kitchen Items	224	Phils HL 7430 Mixer Grinder 750W	3	2060	2060	low stock
Kitchen Items	225	Solmo Non-stick Sandwich Maker 750 W	10	2060	2060	low stock
Kitchen Items	226	Solmo Hand Blender Fibre	12	2060	2060	low stock
Kitchen Items	227	Phils Wah Collection Juicer JM12	2	2060	2060	low stock
Watches	228	Adidas Analog Watch	10	2057	2057	low stock
Watches	229	Disney Analog Watch	10	2057	2057	low stock
Watches	230	Esprit Analog Watch	5	2057	2057	low stock
Bags	231	HP ODC Laptop Bag 15.5	10	2059	2059	low stock
Bags	232	Women Hand Bag	15	2059	2059	low stock
Bags	233	HP ODC School Bag 2.5'	35	2059	2059	in stock
Bags	234	FLUFF Tote Travel Bag 35LTR	8	2059	2059	low stock
Stationery	236	Solo Exam SB-01 Writing Pad	30	2056	2056	in stock
Stationery	238	Kasyo DJ-2100 Desktop Calculator	10	2056	2056	low stock
Stationery	239	TRANS 2D A4 Size Box File	6	2056	2056	low stock
Stationery	240	4M Post It Pad 3.5	8	2056	2056	low stock
Furnitures	242	GreenWud CT-NO-PR Coffee Table	6	2058	2058	low stock
Furnitures	243	Supreme Fusion Cupboard 02TB	3	2058	2058	low stock
Furnitures	244	Foldable Premium Chair	6	2058	2058	low stock
Furnitures	245	GreenWud Nova Pedestal Unit	5	2058	2058	low stock
Stationery	235	Cindy HMPOC Pencil Box (Multicolor)	10	2056	2056	low stock
Stationery	237	Zamark Color Pencil Art Set	10	2056	2056	low stock
Stationery	241	PK Copier A4 75 GSM White Paper Ream	2	2056	2056	low stock
Books	246	Exam Warriors	50	2054	2054	in stock
Books	247	Small Is Beautiful	40	2054	2054	in stock
Books	248	To Kill a Mocking Bird	35	2054	2054	in stock
Toys	249	All-in-one Board Game	20	2051	2051	in stock
Computer	250	Huwi Wi-Fi Receiver 500Mbps	30	2053	2053	in stock
Promotion-High Value	99990	Quanta 4 Port USB Hub	50	3000	3000	in stock

QUESTION:3

```
Use order;
select city, country from address
where country not in('Malaysia', 'USA')
group by country
having count(city)>1;
```

From the above code we find the city that has the maximum count. We infer India and Singapore have the MAX count.

OUTPUT:

city	country
Bangalore	India
Bukit Timah	Singapore

QUESTION 4:

```
use orders;
select oc.customer_id, concat( oc.customer_fname, ' ', oc.customer_lname) as customer_fullname, oc.customer_email,
a.city, a.pincode, oh.order_id, oh.order_date, pc.product_class_desc, p.product_desc, p.product_quantity_avail, p.product_price
, (p.product_price*order_items.product_quantity) as subtotal from online_customer oc join address a using(address_id)
join order_header oh using(customer_id) join order_items using(order_id)
join product p using(product_id) join product_class pc using(product_class_code)
having pincode not like('%0%')
order by customer_fullname, order_date, subtotal;
```

From the above question we have been told to find orders shipped to the city that do not have zero in their pin code. First, we need the full name so we use **CONCAT** function to join the fname and lname. Now since we don't have all the content in the same table, we tend to join different tables required for the latter. Join the order header, order item, product and product_class. Then to find out cities with no 0 in pincode we **use not like %0%**. Then we use order by to sort the name, order date, subtotal.

We infer that we get values for pincode with no 0. We also get that the sky led TV worth Rs.35000 which is height and for smallest value Rs. 25 we get for shell fingertip ball pen.

OUTPUT:

customer_id	customer_fullname	customer_email	city	pincode	order_id	order_date	product_class_desc	product_desc	product_quantity_avail	product_price	subtotal
30	Anita Kohli	anita_kohli@yahoo.com	Amherst	14228	10059	NULL	Electronics	Cybershot DWC-W325 Camera	5	5300	5300
19	Bharti Subhash	bhartis@gmail.com	Dharmapuri	635897	10054	NULL	Clothes	Infant Sleepwear Blue	50	250	500
19	Bharti Subhash	bhartis@gmail.com	Dharmapuri	635897	10034	NULL	Bags	Women Hand Bag	15	1600	1600
19	Bharti Subhash	bhartis@gmail.com	Dharmapuri	635897	10034	NULL	Kitchen Items	Philis Wah Collection Juicer JM12	2	2029	2029
19	Bharti Subhash	bhartis@gmail.com	Dharmapuri	635897	10054	NULL	Bags	HP ODC Laptop Bag 15.5	10	3390	3390
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10070	NULL	Stationery	4M Post It Pad 3.5	8	35	70
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10015	NULL	Stationery	4M Post It Pad 3.5	8	35	175
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10070	NULL	Stationery	Kasyo DJ-2100 Desktop Calculator	10	338	338
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10015	NULL	Watches	Adidas Analog Watch	10	2295	2295
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10015	NULL	Furnitures	Supreme Fusion Cupboard 02TB	3	3000	3000
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10015	NULL	Furnitures	GreenWud CT-NO-PR Coffee Table	6	3500	7000
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	Hosur	635235	10015	NULL	Furnitures	Foldable Premium Chair	6	4000	16000
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10036	NULL	Stationery	Cindy HMPOC Pencil Box (Multicolor)	10	80	160
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10036	NULL	Stationery	Solo Exam SB-01 Writing Pad	30	350	350
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10047	NULL	Computer	Logtech M244 Optical Mouse	10	450	450
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10035	NULL	Kitchen Items	KitchAsst Siphon Coffee Maker 500 ml	10	1790	1790
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10035	NULL	Furnitures	Supreme Fusion Cupboard 02TB	3	3000	3000
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10036	NULL	Computer	External Hard Disk 500 GB	10	3500	3500
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10035	NULL	Furnitures	GreenWud CT-NO-PR Coffee Table	6	3500	7000
24	Brian Grazer	brian_grazer@gmail.com	Abington	2351	10047	NULL	Electronics	Jocky Speaker Music System HT32	19	8900	8900
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10029	NULL	Books	Exam Warriors	50	100	100
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10055	NULL	Bags	Hello Kitti Lunch Bag	15	199	199
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10021	NULL	Stationery	Cindy HMPOC Pencil Box (Multicolor)	10	80	400
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10055	NULL	Bags	HP ODC School Bag 2.5'	35	799	799
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10021	NULL	Kitchen Items	Philis Wah Collection Juicer JM12	2	2029	2029
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10021	NULL	Bags	HP ODC Laptop Bag 15.5	10	3390	3390
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10029	NULL	Toys	Cricket Set for Boys	10	4500	4500
25	Bruno Delbonnel	bruno_delbonnel@msn.com	Avon	2322	10021	NULL	Mobiles	Samsung Galaxy On6	20	14000	14000
34	Hans Zimmer	hans_zimmer@gmail.com	North Windham	6256	10045	NULL	Stationery	Zamark Color Pencil Art Set	10	100	100
34	Hans Zimmer	hans_zimmer@gmail.com	North Windham	6256	10045	NULL	Furnitures	GreenWud Nova Pedestal Unit	5	2500	2500
34	Hans Zimmer	hans_zimmer@gmail.com	North Windham	6256	10045	NULL	Stationery	PK Copier A4 75 GSM White Paper Ream	2	285	2850
32	Hans Zimmer	hans_zimmer@yahoo.com	Milford	6776	10024	NULL	Computer	External Hard Disk 500 GB	10	3500	3500
34	Hans Zimmer	hans_zimmer@gmail.com	North Windham	6256	10045	NULL	Furnitures	Foldable Premium Chair	6	4000	4000
32	Hans Zimmer	hans_zimmer@yahoo.com	Milford	6776	10024	NULL	Electronics	Sky LED 102 CM TV	30	35000	35000
32	James Newton Howard	james_nhoward@yahoo.com	Birmingham	35235	10061	NULL	Computer	Logtech M244 Optical Mouse	10	450	450
33	Niseema Zimmer	niseemaz@yahoo.com	Milford	6776	10049	NULL	Furnitures	GreenWud Nova Pedestal Unit	5	2500	2500
33	Niseema Zimmer	niseemaz@yahoo.com	Milford	6776	10048	NULL	Toys	Remote Control Car	29	2900	2900
33	Niseema Zimmer	niseemaz@yahoo.com	Milford	6776	10049	NULL	Electronics	Sams 192 L4 Single-door Refrigerator	15	28000	28000
40	Paul Haggis	paul_haggis@gmail.com	Hornell	14843	10053	NULL	Kitchen Items	Sams 21L Microwave Oven	5	6880	6880
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10058	NULL	Clothes	Blue Jeans 34	100	800	800
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10025	NULL	Clothes	Ruf-n-Tuf Black PU Leather Belt	50	350	1050
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10033	NULL	Bags	Women Hand Bag	15	1600	1600
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10058	NULL	Watches	Disney Analog Watch	10	1600	1600
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10033	NULL	Stationery	Solo Exam SB-01 Writing Pad	30	350	1750
28	Sayyed Faraj	sayyed_faraj@gmail.com	W. Alibio	14411	10025	NULL	Toys	Barbie Fab Gown Doll	20	1000	2000
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10063	NULL	Books	Alchemist	50	150	150
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Stationery	Shell Fingertip Ball Pen	150	25	500
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10063	NULL	Stationery	TRANS 2D A4 Size Box File	6	120	600
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Clothes	Ruf-n-Tuf Black PU Leather Belt	50	350	1400
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10063	NULL	Bags	Women Hand Bag	15	1600	1600
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Toys	Barbie Fab Gown Doll	20	1000	2000
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Bags	HP ODC School Bag 2.5'	35	799	2397
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10063	NULL	Bags	HP ODC Laptop Bag 15.5	10	3390	3390
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Electronics	Cybershot DWC-W325 Camera	5	5300	5300
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Furnitures	Supreme Fusion Cupboard 02TB	3	3000	6000
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Electronics	Jocky Speaker Music System HT32	19	8900	8900
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Toys	Cricket Set for Boys	10	4500	9000
18	Suresh Babu	sbabu@yahoo.co.in	Hyderabad	517252	10020	NULL	Electronics	Sky LED 102 CM TV	30	35000	35000
35	Thomas Newman	thomas_newman@gmail.com	Norwalk	6851	10064	NULL	Books	Exam Warriors	50	100	100
35	Thomas Newman	thomas_newman@gmail.com	Norwalk	6851	10064	NULL	Clothes	Blue Jeans 34	100	800	1600
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Stationery	Shell Fingertip Ball Pen	150	25	375
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10056	NULL	Clothes	Ruf-n-Tuf Black PU Leather Belt	50	350	700
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Stationery	Cindy HMPOC Pencil Box (Multicolor)	10	80	1200
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Kitchen Items	Solmo Hand Blender Fibre	12	1415	1415
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Kitchen Items	Solmo Non-stick Sandwich Maker 750 W	10	1625	1625
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Bags	HP ODC Laptop Bag 15.5	10	3390	3390
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10057	NULL	Toys	Cricket Set for Boys	10	4500	4500
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Kitchen Items	Sams 21L Microwave Oven	5	6880	6880
11	Vikas Jha	vikas.jha@gmail.com	Hyderabad	517247	10018	NULL	Furnitures	Foldable Premium Chair	6	4000	24000

QUESTION 5:

CODE:

```
select oi.product_id, p.product_desc, sum(oi.product_quantity) as total_product from
(select order_id from order_items where product_id = 201) as temp
join order_items oi on temp.order_id = oi.order_id
join product p
on p.product_id = oi.product_id
group by oi.product_id
order by total_product desc limit 1;
```

This question narrows down to specification. We use subquery as a condition in the main query to restrict the data to be returned. Hence we mention that we want orders that involve order_id 201. The output in this case has only one showing the maximum products of one product_id has been purchased along with id 201. We infer that a shell finger ball tip has been purchased the most along with product id 1. The sum of product quantity of ball pen to be 30.

OUTPUT:

	product_id	product_desc	total_product
▶	218	Shell Fingertip Ball Pen	30

QUESTION 6

CODE:

```
select oc.customer_id, concat( oc.customer_fname, ' ', oc.customer_lname) as customer_fullname, oc.customer_email,
oh.order_id, p.product_desc, oi.product_quantity, product_class_code, (p.product_price*oi.product_quantity) as subtotal
from online_customer oc left join order_header oh using(customer_id) left join order_items oi using(order_id) left join product p using(product_id);
```

From the question given we develop a query which involves displaying order details of all customers including the ones who have not ordered anything. The output is obtained by using **left join** to join the required tables online customer, left join, order header, order items and products. This returns 225 rows of all customers.

We infer from the table that 21 people did not order anything. Hans Zimmer has got the highest subtotal of Rs. 35000 meaning he has ordered the most and Komal Choudhary ordered the list of Rs. 50/.

OUTPUT: I will give a separate data sheet that I obtained.

customer_id	customer_name	customer_email	order_id	product_id	product_name	product_quantity	product_class_code	subtotal
1	Jennifer Wilson	jen_w@att.net	10050	Cricket Set for Boys	1	205	1	4500
1	Jennifer Wilson	jen_w@gmail.com	10050	Sams 21L Microwave Oven	1	205	1	6880
1	Jennifer Wilson	jen_w@gmail.com	10050	HP ODC School Bag 2.5'	1	205	1	1250
1	Jennifer Wilson	jen_w@gmail.com	10031	OnePlus 6 Smart Phone	1	2055	1	32500
1	Jennifer Wilson	jen_w@gmail.com	10031	Samsung Galaxy One6	1	2055	1	14000
1	Jennifer Wilson	jen_w@gmail.com	10031	KitchenAid Siphon Coffee Maker 500 ml	1	2055	1	1790
1	Jennifer Wilson	jen_w@gmail.com	10031	Sky LED 102 CM TV	1	2051	1	3500
1	Jennifer Wilson	jen_w@gmail.com	10031	Infant Sleepwear Blue	1	2052	1	750
1	Jennifer Wilson	jen_w@gmail.com	10031	Samsung Galaxy One6	1	2055	1	14000
1	Jennifer Wilson	jen_w@gmail.com	10031	Foldable Premium Chair	1	2058	1	4000
1	Jackson Davis	dave_jack@gmail.com	10032	Kayso DI-2100 Desktop Calculator	1	2056	1	676
2	Jackson Davis	dave_jack@gmail.com	10037	GreenWud Nova Pedestal Unit	1	2058	1	2500
2	Jackson Davis	dave_jack@gmail.com	10012	Sky LED 102 CM TV	1	2051	1	3500
2	Jackson Davis	dave_jack@gmail.com	10012	Cricket Set for Boys	1	205	1	4500
2	Jackson Davis	dave_jack@gmail.com	10032	Remote Control Car	2	2051	1	5800
2	Jackson Davis	dave_jack@gmail.com	10032	Blossom Lengeha Choli set	1	2052	1	2000
2	Jackson Davis	dave_jack@gmail.com	10032	Shell Fingerprint Ball Pen	10	2056	250	250
2	Jackson Davis	dave_jack@gmail.com	10032	Ruf-n-Tul Black PU Leather Belt	2	2051	1	6000
2	Jackson Davis	dave_jack@gmail.com	10002	Barbie Fab Gown Doll	2	2051	2000	2000
2	Jackson Davis	dave_jack@gmail.com	10002	Doll House	1	2051	3000	3000
2	Jackson Davis	dave_jack@gmail.com	10002	Samsung Galaxy One6	1	2055	14000	14000
2	Jackson Davis	dave_jack@gmail.com	10002	Cindy HMPDC Pencil Box (Multicolor)	4	2056	1352	1352
2	Jackson Davis	dave_jack@gmail.com	10002	Kayso DI-2100 Desktop Calculator	1	2056	676	676
2	Jackson Davis	dave_jack@gmail.com	10002	PK Copier A4 75 GSM White Paper Ream	1	2056	370	370
3	Komal Choudhary	ch_komal@yahoo.co.in	10046	Samsung Galaxy One6	1	2055	14000	14000
3	Komal Choudhary	ch_komal@yahoo.co.in	10040	Logtech M244 Optical Mouse	1	2053	450	450
3	Komal Choudhary	ch_komal@yahoo.co.in	10040	FLUFF Tote Travel Bag 35LTR	1	2059	3290	3290
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	Alchemint Remote Control Car	20	2054	3000	3000
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	Harry Potter	25	2054	6250	6250
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	External Hard Disk 500 GB	1	2051	3500	3500
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	Shell Fingerprint Ball Pen	1	2056	750	750
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	Solo Exam SB-01 Writing Pad	3	2056	1050	1050
3	Komal Choudhary	ch_komal@yahoo.co.in	10007	4M Post It Pad 3.5	2	2056	1050	1050
4	Wilfred Jean	w_jean@gmail.com	10009	Sky LED 102 CM TV	1	2051	3500	3500
4	Wilfred Jean	w_jean@gmail.com	10009	Cybershot DMC-W325 Camera	1	2056	5300	5300
4	Wilfred Jean	w_jean@gmail.com	10009	Disney Analog Watch	1	2057	1600	1600
6	Anita Goswami	agowam@gmail.com	10067	Barbie Fab Gown Doll	1	2051	2000	2000
6	Anita Goswami	agowam@gmail.com	10067	FLUFF Tote Travel Bag 35LTR	1	2059	3290	3290
6	Anita Goswami	agowam@gmail.com	10037	External Hard Disk 500 GB	2	2051	7000	7000
6	Anita Goswami	agowam@gmail.com	10037	Hello Kitti Lunch Bag	1	2059	398	398
6	Anita Goswami	agowam@gmail.com	10037	Solo Exam SB-01 Writing Pad	1	2056	1050	1050
6	Anita Goswami	agowam@gmail.com	10037	4M Post It Pad 3.5	2	2056	1050	1050
6	Anita Goswami	agowam@gmail.com	10030	Sams 192 L4 Single-door Refrigerator	1	2052	1600	1600
6	Anita Goswami	agowam@gmail.com	10030	Blue Jeans 34	2	2052	1600	1600
6	Anita Goswami	agowam@gmail.com	10030	OnePlus 6 Smart Phone	1	2055	32500	32500
6	Anita Goswami	agowam@gmail.com	10010	Solmo Non-stick Sandwich Maker 750 W	1	2060	1625	1625
6	Anita Goswami	agowam@gmail.com	10010	HP ODC Laptop Bag 15.5	1	2059	3300	3300
6	Anita Goswami	agowam@gmail.com	10010	HP ODC School Bag 2.5'	1	2059	790	790
6	Anita Goswami	agowam@gmail.com	10010	Foldable Premium Chair	4	2058	16000	16000
6	Anita Goswami	agowam@gmail.com	10006	Adidas Analog Watch	1	2056	750	750
6	Anita Goswami	agowam@gmail.com	10006	Samsung Galaxy One6	1	2055	14000	14000
6	Anita Goswami	agowam@gmail.com	10006	Adidas Analog Watch	1	2056	750	750
6	Anita Goswami	agowam@gmail.com	10006	Women Hand Bag	1	2059	1600	1600
6	Anita Goswami	agowam@gmail.com	10006	Solo Exam SB-01 Writing Pad	2	2056	2100	2100
6	Anita Goswami	agowam@gmail.com	10006	Kayso DI-2100 Desktop Calculator	1	2056	676	676
6	Anita Goswami	agowam@gmail.com	10006	GreenWud C-NO-PR Coffee Table	1	2058	2500	2500
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10032	Harry Potter	2	2054	250	250
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10032	Ruf-n-Tul Black PU Leather Belt	2	2051	6000	6000
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10032	HP ODC School Bag 2.5'	1	2059	1598	1598
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10032	Small to Real	1	2059	1598	1598
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10032	To Kill a Mocking Bird	1	2054	210	210
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10008	Philz Wah Collection Juicer JM12	2	2060	4058	4058
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10008	Cindy HMPDC Pencil Box (Multicolor)	10	2056	7500	7500
7	Ashwathi Bhatt	ash_bhat@yahoo.co.in	10008	4M Post It Pad 3.5	8	2056	280	280
8	Neetha Castellana	neetha20@gmail.com	10016	Barbie Fab Gown Doll	1	2051	2000	2000
8	Neetha Castellana	neetha20@gmail.com	10016	Blue Jeans 34	1	2052	1600	1600
8	Neetha Castellana	neetha20@gmail.com	10016	Blossom Lengeha Choli set	2	2052	6000	6000
8	Neetha Castellana	neetha20@gmail.com	10016	Philz Wah Collection Juicer JM12	2	2060	4058	4058
8	Neetha Castellana	neetha20@gmail.com	10016	Adidas Analog Watch	2	2056	1500	1500
8	Neetha Castellana	neetha20@gmail.com	10016	HP ODC School Bag 2.5'	2	2059	1598	1598
8	Neetha Castellana	neetha20@gmail.com	10016	FLUFF Tote Travel Bag 35LTR	1	2059	3290	3290
9	Devika Satish	devika_sa@gmail.com	10013	NULL	1	2059	3290	3290
9	Devika Satish	devika_sa@gmail.com	10014	Sky LED 102 CM TV	1	2051	3500	3500
9	Devika Satish	devika_sa@gmail.com	10014	Sams 192 L4 Single-door Refrigerator	1	2052	1600	1600
9	Devika Satish	devika_sa@gmail.com	10014	Remote Control Car	2	2051	5800	5800
9	Devika Satish	devika_sa@gmail.com	10014	Samsung Galaxy One6	1	2055	14000	14000
9	Devika Satish	devika_sa@gmail.com	10014	Harry Potter	2	2054	250	250
9	Devika Satish	devika_sa@gmail.com	10014	External Hard Disk 500 GB	1	2051	3500	3500
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10070	Kayso DI-2100 Desktop Calculator	1	2056	676	676
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10070	4M Post It Pad 3.5	2	2056	1050	1050
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10015	Adidas Analog Watch	1	2056	750	750
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10015	Adidas Analog Watch	1	2056	750	750
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10015	4M Post It Pad 3.5	2	2056	1050	1050
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10015	Supreme Fusion Cupboard O2TB	1	2058	3000	3000
10	Bidhan C Roy	bidhanroy@yahoo.co.in	10015	Foldable Premium Chair	1	2058	4000	4000
11	Vikas Jha	vikas.jha@gmail.com	10057	Cricket Set for Boys	1	205	4500	4500
11	Vikas Jha	vikas.jha@gmail.com	10038	Ruf-n-Tul Black PU Leather Belt	1	2051	6000	6000
11	Vikas Jha	vikas.jha@gmail.com	10038	Shell Fingerprint Ball Pen	15	2056	1125	1125
11	Vikas Jha	vikas.jha@gmail.com	10038	Sams 21L Microwave Oven	1	2056	6880	6880
11	Vikas Jha	vikas.jha@gmail.com	10038	Solmo Non-stick Sandwich Maker 750 W	1	2060	1625	1625
11	Vikas Jha	vikas.jha@gmail.com	10038	Solmo Hand Grinder Fibre	1	2059	3300	3300
11	Vikas Jha	vikas.jha@gmail.com	10038	HP ODC Laptop Bag 15.5	1	2059	3300	3300
11	Vikas Jha	vikas.jha@gmail.com	10038	Cindy HMPDC Pencil Box (Multicolor)	15	2056	1125	1125
11	Vikas Jha	vikas.jha@gmail.com	10038	Foldable Premium Chair	1	2058	4000	4000
12	Arul Kumar T	arulkuamr@gmail.com	10039	Remote Control Car	2	2051	5800	5800
12	Arul Kumar T	arulkuamr@gmail.com	10039	Samsung Galaxy One6	1	2055	14000	14000
12	Arul Kumar T	arulkuamr@gmail.com	10039	Philz HL 7430 Mini Grinder 750W	1	2060	2265	2265
12	Arul Kumar T	arulkuamr@gmail.com	10039	Philz Wah Collection Juicer JM12	1	2060	2029	2029
13	Ravi Srikanth	r_srikanth@yahoo.co.in	NULL	NULL	1	2055	32500	32500
14	Avinash Dutta	avinash_dutta@yahoo.co.in	NULL	NULL	1	2055	32500	32500
15	Jyoti Sinha	jyotsinha@gmail.com	NULL	NULL	1	2055	32500	32500
16	Vijay Bollintine	vjbollintine@gmail.com	10065	Hello Kitti Lunch Bag	1	2059	398	398
17	Prasad Shetty	psheetty@yahoo.co.in	10065	Cindy HMPDC Pencil Box (Multicolor)	1	2056	240	240
17	Prasad Shetty	psheetty@yahoo.co.in	10052	Philz Wah Collection Juicer JM12	1	2060	2029	2029
17	Prasad Shetty	psheetty@yahoo.co.in	10043	Shell Fingerprint Ball Pen	1	2056	750	750
17	Prasad Shetty	psheetty@yahoo.co.in	10043	4M Post It Pad 3.5	2	2056	1050	1050
18	Suresh Babu	sbabu@yahoo.co.in	10063	Alchemint	1	2054	150	150
18	Suresh Babu	sbabu@yahoo.co.in	10063	HP ODC Laptop Bag 15.5	1	2059	1600	1600
18	Suresh Babu	sbabu@yahoo.co.in	10063	Women Hand Bag	1	2059	1600	1600
18	Suresh Babu	sbabu@yahoo.co.in	10063	TRANS 20 A4 Size Box File	1	2059	1600	1600
18	Suresh Babu	sbabu@yahoo.co.in	10020	Sky LED 102 CM TV	1	2051	3500	3500
18	Suresh Babu	sbabu@yahoo.co.in	10020	Jocky Speaker Music System HT32	1	2050	8900	8900
18	Suresh Babu	sbabu@yahoo.co.in	10020	Cricket Set for Boys	2	2051	9000	9000
18	Suresh Babu	sbabu@yahoo.co.in	10020	Barbie Fab Gown Doll	2	2051	2000	2000
18	Suresh Babu	sbabu@yahoo.co.in	10020	Shell Fingerprint Ball Pen	20	2056	500	500
18	Suresh Babu	sbabu@yahoo.co.in	10020	Ruf-n-Tul Black PU Leather Belt	4	2052	1400	1400
18	Suresh Babu	sbabu@yahoo.co.in	10020	Cybershot DMC-W325 Camera	1	2056	5300	5300
18	Suresh Babu	sbabu@yahoo.co.in	10020	HP ODC School Bag 2.5'	3	2059	2397	2397
18	Suresh Babu	sbabu@yahoo.co.in	10020	Supreme Fusion Cupboard O2TB	1	2058	3000	3000
19	Bharti Subhash	bhartis@gmail.com	10054	Infant Sleepwear Blue	2	2052	500	500
19	Bharti Subhash	bhartis@gmail.com	10054	HP ODC Laptop Bag 15.5	3	2059	2397	2397
19	Bharti Subhash	bhartis@gmail.com	10034	Philz Wah Collection Juicer JM12	1	2060	2029	2029
19	Bharti Subhash	bhartis@gmail.com	10034	Women Hand Bag	2	2059	1600	1600
20	Keshav Jog	keshavjog@yahoo.co.in	NULL	NULL	1	2051	3000	3000
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Cricket Set for Boys	1	205	4500	4500
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Barbie Fab Gown Doll	1	2051	2000	2000
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Remote Control Car	1	2051	5800	5800
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Blue Jeans 34	5	2052	4000	4000
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Blossom Lengeha Choli set	1	2052	1500	1500
5	Ramya Ravinder	ramya_r23@gmail.com	10005	Shell Fingerprint Ball Pen	10	2056	7500	7500
5	Ramya Ravinder	ramya_r23@gmail.com	10004	Thian Karthi Watch	1	2057	1400	1400
5	Ramya Ravinder	ramya_r23@gmail.com	10004	Ruf-n-Tul Black PU Leather Belt	2	2052	700	700
5	Ramya Ravinder	ramya_r23@gmail.com	10004	Hello Kitti Lunch Bag	1	2059	398	398
5	Ramya Ravinder	ramya_r23@gmail.com	10004	KitchenAid Siphon Coffee Maker 500 ml	1	2050	1790	1790
5	Ramya Ravinder	ramya_r23@gmail.com	10004	Sams 21L Microwave Oven	1	2050	6880	6880
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Sams 192 L4 Single-door Refrigerator	1	2050	1600	1600
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Jocky Speaker Music System HT32	1	2050	8900	8900
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Logtech M244 Optical Mouse	1	2053	450	450
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Philz HL 7430 Mini Grinder 750W	1	2060	2265	2265
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Solmo Non-stick Sandwich Maker 750 W	1	2059	3300	3300
5	Ramya Ravinder	ramya_r23@gmail.com	10003	HP ODC Laptop Bag 15.5	2	2059	6780	6780
5	Ramya Ravinder	ramya_r23@gmail.com	10003	FLUFF Tote Travel Bag 35LTR	1	2059	3290	3290
5	Ramya Ravinder	ramya_r23@gmail.com	10026	OnePlus 6 Smart Phone	1	2055	32500	32500
21	Alan Silvestri	alan_silver@msn.com	10026	Cybershot DMC-W325 Camera	1	2056	5300	5300
22	Andrew Stanton	andrew_stanton@yahoo.com	NULL	NULL	1			

QUESTION 7:

```
select carton_id, (width*height*len) as carton_vol from carton
where width*height*len >=(select p.width*p.height*p.len*oi.product_quantity from product p
join order_items oi using(product_id)
group by oi.order_id
having oi.order_id = 10006)
order by carton_vol ASC limit 1;
```

From the question we find out the volume of carton is greater than the volume of all items. We use subquery to select the volume of all products where we group by order_id and where we specify according to which order_id (10006) it needs to be sorted using **having** function. We infer that carton id is 60 with volume 225000 unit.

OUTPUT:

	carton_id	carton_vol
▶	60	2250000

QUESTION 8:

CODE:

```
use orders;
select oc.customer_id, concat( oc.customer_fname, ' ', oc.customer_lname) as customer_fullname, oc.customer_email,
oh.order_id, oh.order_status, sum(oi.product_quantity) from online_customer oc join order_header oh using(customer_id)
join order_items oi using(order_id)
group by order_id
having sum(oi.product_quantity) > 10
AND order_status = 'shipped';
```

We have obtained the details of the customer who have bought more than 10 products per order and provide the status shipped. Join online customer, order header and order item to display customer id, customer fullname, order id, product quantity according to question.

We infer that 11 customer have bought products quantity more than 10. Customer named Komal has bought 53 items. Customer named Anita Goswami has least items placed i.e. 11.

OUTPUT:

customer_id	customer_fullname	customer_email	order_id	order_status	sum(oi.product_quantity)
2	Jackson Davis	dave_jack@gmail.com	10002	Shipped	16
5	Ramya Ravinder	ramya_r23@gmail.com	10003	Shipped	12
6	Anita Goswami	agoswami@gmail.com	10006	Shipped	15
3	Komal Choudhary	ch_komal@yahoo.co.IN	10007	Shipped	53
7	Ashwathi Bhatt	ash_bhat@yahoo.co.IN	10008	Shipped	25
6	Anita Goswami	agoswami@gmail.com	10010	Shipped	11
2	Jackson Davis	dave_jack@gmail.com	10012	Shipped	23
10	Bidhan C.Roy	bidhanroy@yahoo.co.in	10015	Shipped	13
6	Anita Goswami	agoswami@gmail.com	10017	Shipped	14
11	Vikas Jha	vikas.jha@gmail.com	10018	Shipped	40
17	Prasad Shetty	pshetty@yahoo.co.in	10043	Shipped	12

QUESTION 9:

CODE:

```
select oc.customer_id, concat( oc.customer_fname, ' ', oc.customer_lname) as customer_fullname, oh.order_id, oi.product_quantity as total_quantity,
oh.order_status
from online_customer oc
join order_header oh using(customer_id)
join order_items oi using(order_id)
group by order_id
having order_id > 10060
AND order_status = 'shipped';
```

From the question we find out order details of the customer along with the total quantity of product shipped for order id greater than 1006. We use **concat** function as merger for full name. Join the required table online customer, order header, order item, order item. We use AND function to return the statement as shipped.

From the given table we get 6 rows with customer and the order id greater than 10060.

OUTPUT:

customer_id	customer_fullname	order_id	total_quantity	order_status
37	James Newton Howard	10061	1	Shipped
18	Suresh Babu	10063	1	Shipped
35	Thomas Newman	10064	2	Shipped
51	Ahmad Bin Gh Azali	10068	2	Shipped
23	Anna Pinnock	10069	1	Shipped
10	Bidhan C.Roy	10070	1	Shipped

QUESTION 10:

CODE:

```
select pc.product_class_desc, sum(oi.product_quantity) as total_quantity, (oi.product_quantity*p.product_price) as total_value, a.country
from address a join online_customer oc using(address_id)
join order_header oh using(customer_id)
join order_items oi using(order_id)
join product p using(product_id)
join product_class pc using(product_class_code)
where a.country not in('India', 'USA') order by total_quantity desc;
```

We find the data of countries other than USA and India that have highest purchase value. Join clause used for joining the tables. The main logic here is using the where clause, not in (not including those countries), and order by to get that specified values. We infer that 22 bags are shipped outside India to Sri Lanka with a total value of Rs. 1598/.

	product_class_desc	total_quantity	total_value	country
▶	Bags	22	1598.00	Sri Lanka

CONCLUSION:

We have solved all the above queries for the company for making feel much more at ease to identify how to deal with their concern with their given data.

