E-PLATFORM FOR MUSICAL INSTRUMENT

Course: AT82.02 Data Modeling and Management
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TABLE OF CONTENTS

TABLE OF CONTENTS

WHAT IS A MUSICAL INSTRUMENT E-PLATFORM

- Musicians are eager to buy musical instrument and want to know their features before making the purchase.

- Although, traditionally musicians try the instrument before buying, nowadays the consistency in quality means that the product is exactly as listed.

- Buyers can watch online reviews before deciding to make a purchase.

NEED OF PROJECT

- To help people who want to know about the musical Instruments and its features.

- To help the people who want to purchase musical instruments.

- To help buyers make an informed decision.

- To connect the vendor and the buyer and facilitate safe business transaction.

BUSINESS RULES AND CONSTRAINTS

- The target area of the business is mainly within Bangkok city.
- Customers and vendors need to be registered on the platform to buy and sell any products respectively.
- Customers cannot cancel an order, once created.
- Vendors can add, update or delete the items that they have posted for sale.
- Customers can select only from within the given options of authorized payment methods.

BUSINESS RULES AND CONSTRAINTS

- The products and riders have a review/rating system that is given by the customers.
- The system calculates the average user given ratings for any product to display as overall rating.
- System calculates rider overall rating from given customer ratings.
- System calculates total price accounting for item's price, quantity and discount.
- Each order can only be associated with one payment method.

OPERATIONS

INSERT

- New Customer
- New Category
- New Vendor
- New Item
- New Order
- New OrderItem
- New Rider
- New Payment

UPDATE

- Customer Information
- Customer Password
- Vendor Information
- Item Description
- Item Review
- Order Total
- Rider rating
- Delivery Information
- Payment

DELETE

- Customer
- Vendor
- Item
- Order
- Rating

Queries & Reports

Customer:
- Gender distribution
- Age distribution
- Top 5 customers according to orders within past year
- No. of orders based on gender
- List of customers with orders in progress
- List of customers who have never ordered
- List of customers who have never rated

Vendor:
- Searching an item from vendor
- List of Top 5 vendors with most orders
- Vendor with maximum number of customers
- Revenue generated by each vendor
- Top 5 vendor with highest revenue

Item:
- Overview of item table
- Items separated by category
- Top 5 item with highest rating
- Most expensive item from particular category
- Item separated by country
- Top 3 item with most reviews
- Item categories by year
- Top 5 most ordered items
- Top 10 items for this month
- Show item and vendor details searched by item name and ordered by price

Rider:
- List riders with more than 3 rating
- Top 5 active riders by rating for November

Queries & Reports

Orders:
- Sales sorted by year
- Ranking of busiest month of 2021
- List of orders in past month
- List of paid orders currently in progress
- List of orders based on quantity
- Orders sorted by status
- No. of Orders delivered in last 30 days
- Total revenue generated via platform

Rating:
- Average rating
- Total number of ratings given by customers
- Vendors and Items with bad rating
- Vendors and Items with good rating
- Count of customers who have rated or not

Payment:
- Payment method and status summary
- Transaction via Cash on Delivery
- Transaction via E-payment
- List of customers who pay by COD
- List of customers who pay by E-payment
- List of customers who completed payments
- List of customers with pending payments
- Latest payment by COD
- Latest payment by E-payment

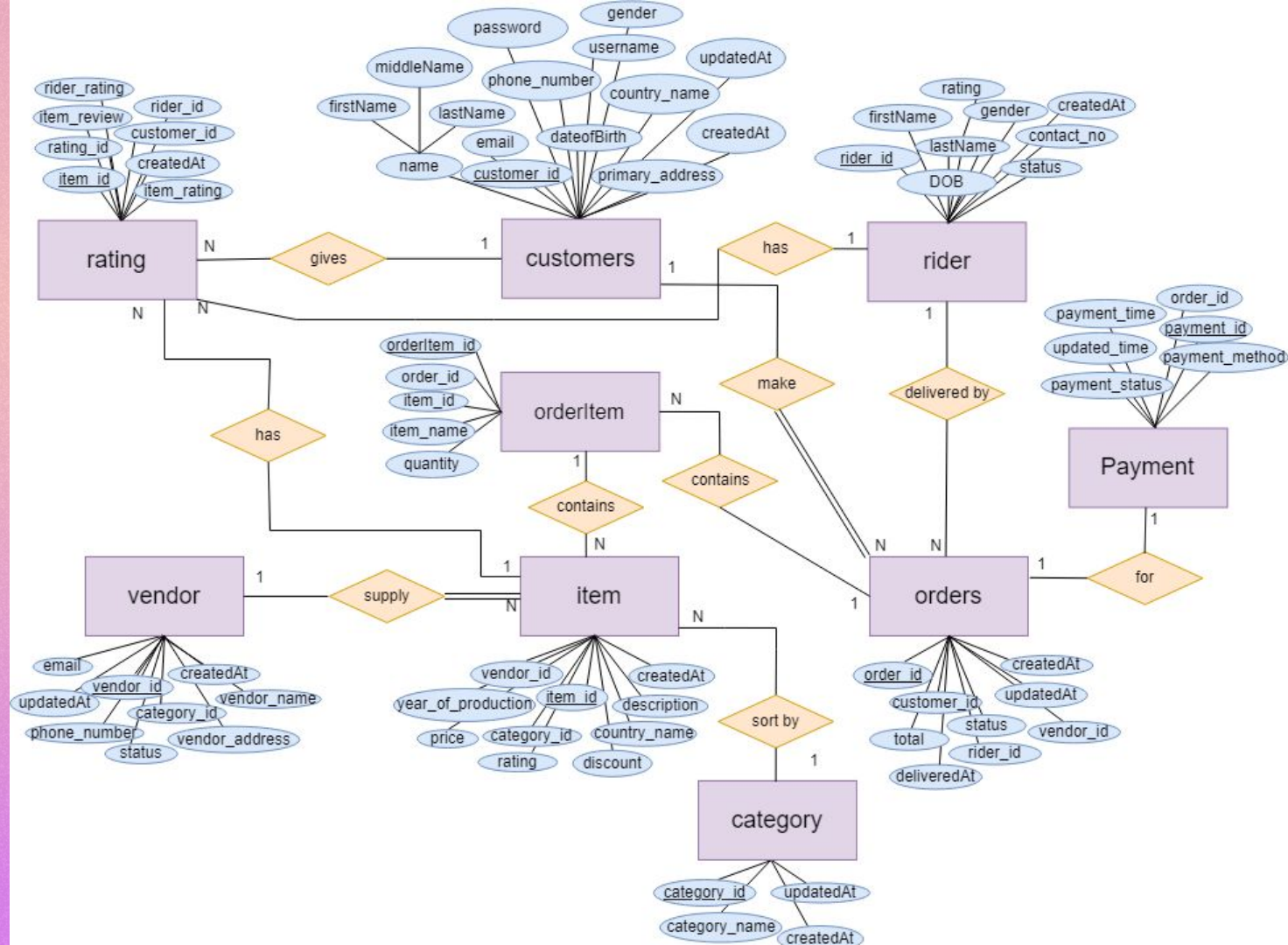**OrderItem:**
- Top 5 orders with highest occurrence
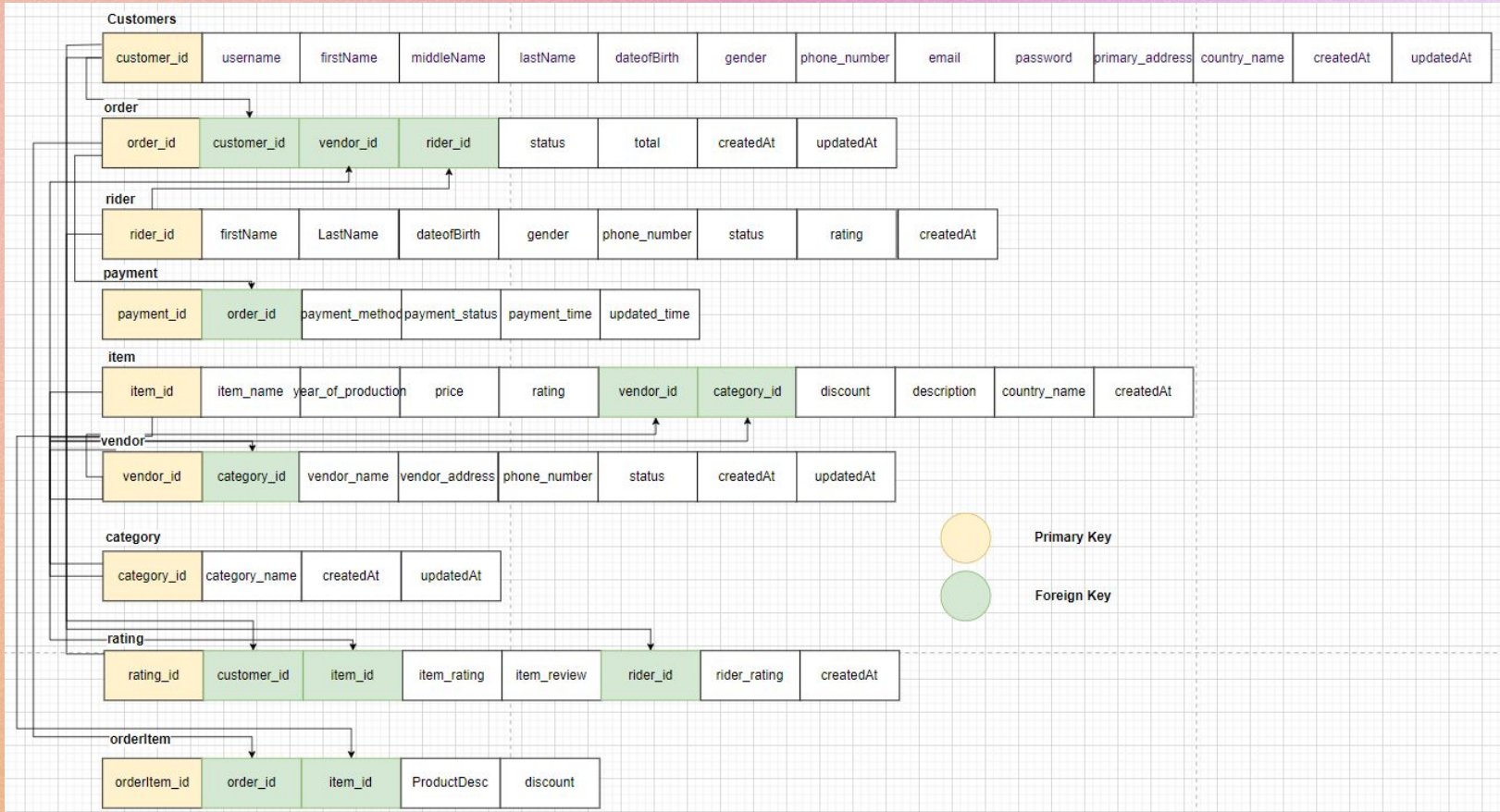- Search for specific order, the containing items and their quantities

Category:
- Category name like 'Instruments'
- Vendors for specific category

CONCEPTUAL DIAGRAM

Logical diagram

Customers

customer_id	username	firstName	middleName	lastName	dateofBirth	gender	phone_number	email	password	primary_address	country_name	createdAt	updatedAt

order

order_id	customer_id	vendor_id	rider_id	status	total	createdAt	updatedAt

rider

rider_id	firstName	LastName	dateofBirth	gender	phone_number	status	rating	createdAt

payment

payment_id	order_id	payment_method	payment_status	payment_time	updated_time

item

item_id	item_name	year_of_production	price	rating	vendor_id	category_id	discount	description	country_name	createdAt

vendor

vendor_id	category_id	vendor_name	vendor_address	phone_number	status	createdAt	updatedAt

category

category_id	category_name	createdAt	updatedAt

rating

rating_id	customer_id	item_id	item_rating	item_review	rider_id	rider_rating	createdAt

orderItem

orderItem_id	order_id	item_id	ProductDesc	discount

Primary Key

Foreign Key

Extended Entity Relationship Diagram
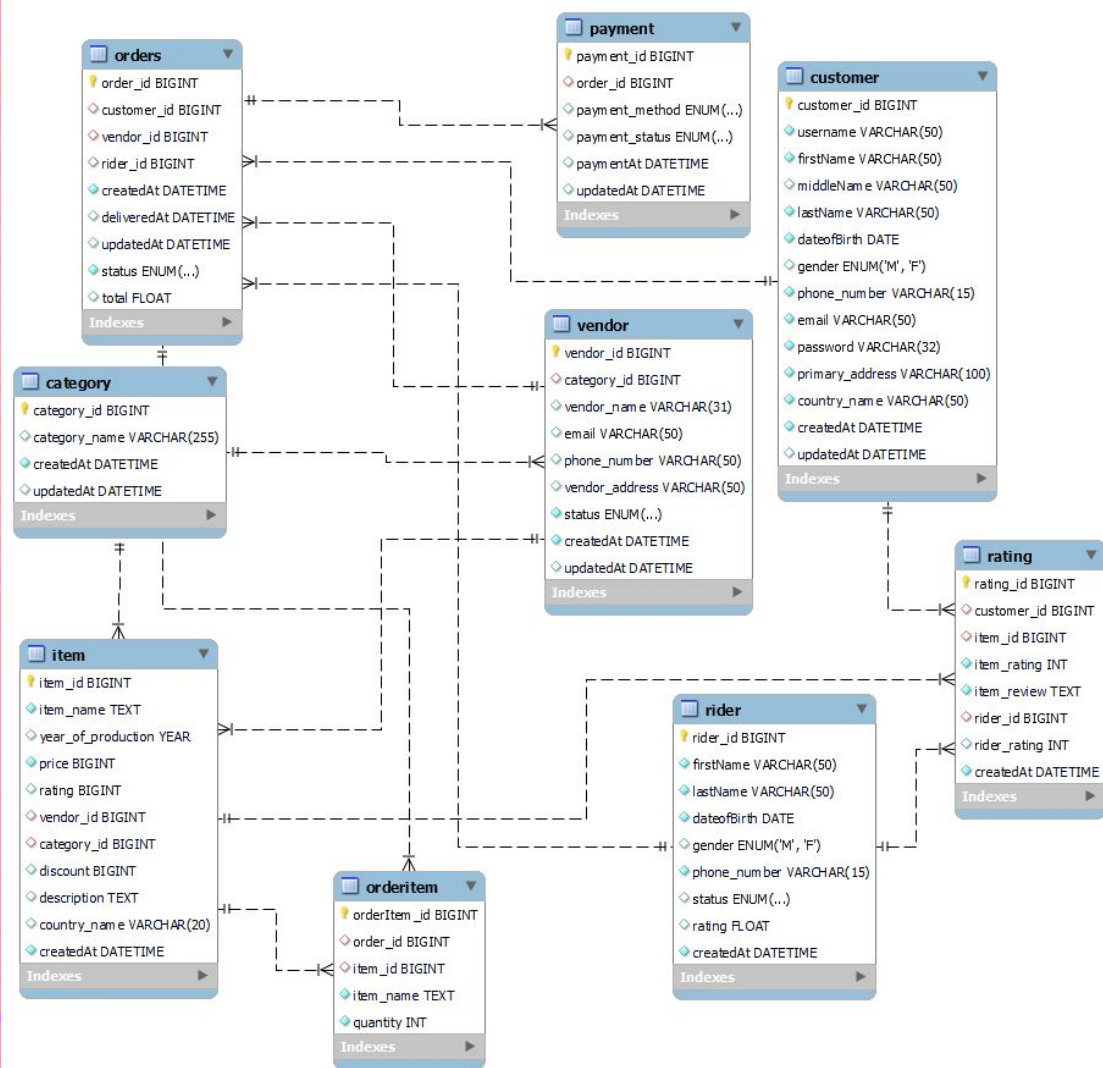
DATA DICTIONARY - CUSTOMER

# of Samples	ATTRIBUTES	DESCRIPTION	DATA TYPE	NOT NULL	UNIQUE	PK/ FK	FK REFERENCE
200	customer_id	Customer Identification Number	BIGINT	TRUE	TRUE	PK	
	username	Username of the customer	VARCHAR	TRUE	FALSE		
	firstName	First name	VARCHAR	TRUE	FALSE		
	middleName	Middle name	VARCHAR	FALSE	FALSE		
	lastName	Last name	VARCHAR	TRUE	FALSE		
	dateofBirth	Date of birth	DATE	TRUE	FALSE		
	gender	Gender	ENUM	FALSE	FALSE		
	phone_number	Phone number	VARCHAR	TRUE	FALSE		
	email	Email address	VARCHAR	TRUE	FALSE		
	password	Password	VARCHAR	TRUE	FALSE		
	primary_address	Primary Address of the customer	VARCHAR	TRUE	FALSE		
	country_name	Origin country of the customer	VARCHAR	TRUE	FALSE		
	createdAt	Date account created on	DATETIME	TRUE	FALSE		
	updatedAt	Date account last updated on	DATETIME	FALSE	FALSE		

DATA DICTIONARY - VENDOR

# of Samples	ATTRIBUTES	DESCRIPTION	DATA TYPE	NOT NULL	UNIQUE	PK/ FK	FK REFERENCE
15	vendor_id	Unique id for the vendor	BIGINT	TRUE	TRUE	PK	
	category_id	Unique id for the Category	BIGINT	TRUE	FALSE	FK	category
	vendor_name	Vendor identification name	VARCHAR	TRUE	FALSE		
	vendor_address	Vendor address	VARCHAR	TRUE	FALSE		
	phone_number	Vendor phone number	VARCHAR	TRUE	FALSE		
	status	Status of vendor "Active" or "Inactive"	ENUM	FALSE	FALSE		
	createdAt	Date account created on	DATETIME	TRUE	FALSE		
	updatedAt	Date account updated on	DATETIME	FALSE	FALSE		

DATA DICTIONARY - ITEM

# of Samples	ATTRIBUTES	DESCRIPTION	DATA TYPE	NOT NULL	UNIQUE	PK/ FK	FK REFERENCE
30	item_id	Unique id for the item	BIGINT	TRUE	TRUE	PK	
	item_name	Customer ID from platform	TEXT	TRUE	FALSE		
	year_of _production	The year when item was manufactured	YEAR	FALSE	FALSE		
	price	Price of item	BIGINT	TRUE	FALSE		
	rating	Average rating from the customer of particular item	FLOAT	FALSE	FALSE		
	vendor_id	Vendor identification number	BIGINT	TRUE	FALSE	FK	VENDOR
	category_id	Category identification number	BIGINT	TRUE	FALSE	FK	CATEGORY
	discount	Discount percentage for the item	BIGINT	FALSE	FALSE		
	description	Item description and specification	TEXT	FALSE	FALSE		
	country_name	Origin country of the item	VARCHAR(20)	FALSE	FALSE		
	createdAt	Time when item have been added	DATETIME	FALSE	FALSE		

DATA DICTIONARY - ORDERS

# of Samples	ATTRIBUTES	DESCRIPTION	DATA TYPE	NOT NULL	UNIQUE	PK/ FK	FK REFERENCE
150	order_id	Unique order identification	BIGINT	TRUE	TRUE	PK	
	customer_id	Customer identification number	BIGINT	FALSE	FALSE	FK	customer
	vendor_id	Vendor identification number	BIGINT	FALSE	FALSE	FK	vendor
	rider_id	Rider identification number	BIGINT	FALSE	FALSE	FK	rider
	createdAt	Time order is created at	DATETIME	TRUE	FALSE		
	deliveredAt	Time order is delivered at	DATETIME	FALSE	FALSE		
	updatedAt	Time order is last updated	DATETIME	FALSE	FALSE		
	status	Received, In Progress, Delivered	ENUM	TRUE	FALSE		
	total	Sum calculation of the order	FLOAT	FALSE	FALSE		

TRANSACTIONS/ OPERATIONS

INSERT NEW CUSTOMER

```sql
228    insert into `customer`
229    values (160, 'mdanzig4f', 'Maisey', 'Prisk', 'Danzig',
230            '1950-03-29', 'F', '6694800577', 'mdanzig4f@earthlink.net',
231            '3NyCKF8', 'Khok Faet, Nong Chok, Bangkok, 10530',
232            'Thailand', '2020-07-27 15:03:02', '2020-07-28 17:56:28');
233    SELECT * FROM customer WHERE customer_id = 160;
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

customer_id	username	firstName	middleName	lastName	dateofBirth	gender	phone_number	email
160	mdanzig4f	Maisey	Prisk	Danzig	1950-03-29	F	6694800577	mdanzig4f@earthlink.net
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

password	primary_address	country_name	createdAt	updatedAt
3NyCKF8	Khok Faet, Nong Chok, Bangkok, 10530	Thailand	2020-07-27 15:03:02	2020-07-28 17:56:28
NULL	NULL	NULL	NULL	NULL

Find & delete review with forbidden keyword

```sql
select * from rating
where item_review like '%verybadword%' # Assume these are banned word
or item_review like '%swearword%'
or item_review like '%superbadswearword%';
# assume rating_id 16 contain bad word
delete from item_rating
where rating_id = 151;
```

```sql
# If safe mode is off
delete from rating
where item_review like '%verybadword%' # Assume these are banned word
or item_review like '%swearword%'
or item_review like '%superbadswearword%';
```

rating_id	item_id	customer_id	text	rating	createdAt
16	10	12	verybadword	1	2022-09-07 03:07:59
NULL	NULL	NULL	NULL	NULL	NULL

Customer Analysis - Gender distribution and their orders

```sql
-- Gender distribution of the customers --
SELECT
    SUM(CASE WHEN gender = 'M' THEN 1 END) AS Male,
    SUM(CASE WHEN gender = 'F' THEN 1 END) AS Female,
    SUM(CASE WHEN gender IS NULL THEN 1 END) AS Unknown,
    SUM(CASE WHEN gender IS NOT NULL THEN 1 ELSE 1 END) AS Total
FROM customer;
```

Result Grid		Filter Rows:	
Male	Female	Unknown	Total
75	104	21	200

```sql
76        -- Customer orders based on gender --
77  •    SELECT cu.gender, COUNT(*) as NoOfOrders
78       FROM customer cu INNER JOIN orders o
79       ON cu.customer_id = o.customer_id
80       GROUP BY cu.gender;
```

Result Grid	Filter
gender	NoOfOrders
F	76
M	64
NULL	10

Customer Analysis - Age distribution

```
50    -- sorting the no of customers by age --
51 •  SELECT
52    (SELECT COUNT(customer_id) FROM customer WHERE TIMESTAMPDIFF(YEAR, dateofBirth, now()) < 20) as Teen,
53    (SELECT COUNT(customer_id) FROM customer WHERE TIMESTAMPDIFF(YEAR, dateofBirth, now()) BETWEEN 20 AND 39) as Adult,
54    (SELECT COUNT(customer_id) FROM customer WHERE TIMESTAMPDIFF(YEAR, dateofBirth, now()) BETWEEN 40 AND 59) as Middle_Aged,
55    (SELECT COUNT(customer_id) FROM customer WHERE TIMESTAMPDIFF(YEAR, dateofBirth, now()) > 59) as Senior;
```

Result Grid | Filter Rows:

Teen	Adult	Middle_Aged	Senior
24	53	66	57

Customer Analysis - Top 5 customer according to orders within past year

```sql
-- Top five customers who ordered most items within past year
SELECT cu.customer_id, CONCAT(cu.firstName,' ', COALESCE(cu.middleName, ' '),' ', cu.lastName)
        AS Full_Name, cu.gender, cu.phone_number, cu.email, COUNT(*) AS NoOfOrders, cu.createdAt
FROM orders o INNER JOIN customer cu
ON o.customer_id = cu.customer_id
WHERE o.createdAt >= DATE(NOW() - INTERVAL 12 MONTH)
GROUP BY cu.customer_id
ORDER BY NoOfOrders DESC LIMIT 5;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

customer_id	Full_Name	gender	phone_number	email	NoOfOrders	createdAt
106	Gunner Spoerl	M	6635425106	gspoerl2x@diigo.com	3	2020-02-07 00:27:33
84	Forest Onge	M	6669051096	fonge2b@usatoday.com	3	2020-03-16 15:47:02
35	Carolus Flatt McGivena	NULL	6618118027	cmcgivenay@sohu.com	3	2020-12-07 07:57:49
188	Neilla Obert Skippings	F	6638693258	nskippings57@comsenz.com	3	2022-02-15 11:57:27
51	Desi Grimsdith	F	6695027494	dgrimsdith1e@scientificamerican.com	2	2020-10-19 05:55:42

Customer Analysis -
List of customers with orders in progress

```sql
31    -- List of customers whose order are in progress
32  • SELECT cu.customer_id, CONCAT(cu.firstName, ' ', COALESCE(cu.middleName, ' '), ' ', cu.lastName) AS FullName,
33    cu.gender, cu.phone_number, cu.email, o.order_id, o.status
34    FROM orders o INNER JOIN customer cu
35    ON o.customer_id = cu.customer_id
36    WHERE o.status = 'In Progress'
37    ORDER BY cu.customer_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

customer_id	FullName	gender	phone_number	email	order_id	status
1	Leodora McGeechan Clemenzo	F	6651236660	lclemenzo0@sphinn.com	55	In Progress
14	Mariette Ferfulle Ferenc	F	6618064697	mferencd@rambler.ru	89	In Progress
17	Morgan Filchakov	M	6669284103	mfilchakovg@usgs.gov	48	In Progress
20	Cheslie Malenfant	M	6678301925	cmalenfantj@tiny.cc	69	In Progress
21	Charlton Corzon	M	6617576589	ccorzonk@pen.io	37	In Progress
22	Lidia Nowlan	F	6666790996	lonowlanl@tinyurl.com	108	In Progress
34	Abraham Hanrahan	M	6659924844	ahanrahanx@yahoo.co.jp	101	In Progress
35	Carolus Flatt McGivena	NULL	6618118027	cmcgivenay@sohu.com	140	In Progress
45	Sada McMurray	F	6662036122	smcmurray18@sogou.com	38	In Progress
47	Laird Pilling	M	6673069148	lpilling1a@friendfeed.com	46	In Progress
51	Desi Grimsdith	F	6695027494	dgrimsdith1e@scientifica...	1	In Progress

Customer Analysis -
List of customers who have never ordered

```sql
-- List of customers who have never ordered --
SELECT cu.customer_id, CONCAT(cu.firstName,' ', cu.lastName)
    as CustomerName, cu.gender, cu.createdAt
FROM customer cu
LEFT JOIN orders o ON cu.customer_id = o.customer_id
WHERE o.customer_id IS NULL
ORDER BY cu.customer_id;
```

```sql
SELECT
(SELECT COUNT(cu.customer_id) FROM customer cu LEFT JOIN orders o
ON cu.customer_id = o.customer_id
WHERE o.customer_id IS NULL ORDER BY cu.customer_id) AS NeverOrdered,
(SELECT COUNT(DISTINCT customer_id) FROM orders) AS Ordered;
```

customer_id	CustomerName	gender	createdAt
2	Petrina Odeson	F	2020-06-06 00:50:32
5	Kristi Schaumaker	F	2022-06-22 07:43:27
7	Jemie Casol	NULL	2020-03-07 12:51:18
9	Trix Corr	F	2021-11-12 06:23:27
10	Agace Werrilow	NULL	2021-12-15 12:09:08
11	Nels Hardistry	M	2021-06-08 02:51:54

NeverOrdered	Ordered
97	103

Category analysis - Search with 'Instruments'

```sql
-- Category Analysis --
SELECT * FROM category
WHERE category_name LIKE '%Instruments';
```

	category_id	category_name	createdAt	updatedAt
▶	3	Brass Instruments	2021-10-08 05:49:35	2022-06-02 03:17:20
	4	Percussion instruments	2021-12-10 15:31:54	2021-10-08 05:55:38
	5	Keyboard instruments	2023-03-18 13:49:59	NULL

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Category analysis - Vendors for specific category

```sql
-- Vendors selling items from category 9 --
SELECT * FROM vendor;
SELECT c.category_id, c.category_name,
v.vendor_id, v.vendor_name
FROM category c INNER JOIN vendor v
ON c.category_id = v.category_id
WHERE c.category_id = 9;
```

Result Grid		Filter Rows:		Export:
category_id	category_name	vendor_id	vendor_name	
9	Chordophones	1	Gibson	
9	Chordophones	11	Fender	
9	Chordophones	13	Pioneer DJ	

Vendor Analysis - Vendor information with category

```
 5
 6 •   SELECT *
 7     FROM item mn INNER JOIN vendor rt ON mn.item_id=rt.vendor_id
 8     WHERE mn.vendor_id = 10;
 9
10     #Search the item with Name order by price and show the details of associated item and vendor
11
12 •   SELECT *
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: ‡A

item_id	item_name	year_of_production	price	rating	vendor_id	category_id	discount	description	country_name	createdAt	vendor_id
11	Timpani TP-8300R	2019	12000	4	10	4	0	To create instruments that satisfy the stringent...	Japan	2021-12-21 05:49:13	11

| Wrap Cell Content: ‡A |

vendor_id	category_id	vendor_name	email	phone_number	vendor_address	status	createdAt	updatedAt
11	9	Fender	Fender@domainmarket.com	4988095733	35 Beilfuss Circle	inactive	2019-11-03 10:42:26	2021-06-21 22:32:17

Vendor Analysis -
List of Top 5 vendor with most order

```
58
59  •  SELECT vendor.vendor_id, vendor.vendor_name, count(orders.order_id) AS 'No. of Orders'
60     FROM orders INNER JOIN vendor ON orders.vendor_id=vendor.vendor_id
61     GROUP BY vendor.vendor_id
62     ORDER BY count(orders.order_id) DESC
63     LIMIT 5;
64
65  •  select * from vendor;
66
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

vendor_id	vendor_name	No. of Orders
13	Pioneer DJ	4
1	Gibson	3
8	Roland	2
12	Gold Peak Industries	2
11	Fender	2

Vendor Analysis -
Vendor with maximum number of customer

```
49
50      #vendor which have maximum number of customer
51  ●   SELECT vendor.vendor_id, vendor.vendor_name, count(orders.customer_id) AS 'No. of customers'
52      FROM orders INNER JOIN vendor ON orders.vendor_id=vendor.vendor_id
53      GROUP BY vendor.vendor_id
54      ORDER BY count(orders.customer_id) DESC
55      LIMIT 1;
56
57      #To 5 vendor with most order
58
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

vendor_id	vendor_name	No. of customers
13	Pioneer DJ	4

Vendor Analysis - Revenue generated by each vendor

```
45     #Revenue generated by each vendor
46  ●  SELECT vendor.vendor_id, vendor.vendor_name, sum(orders.total) AS 'Total Sales'
47     FROM orders INNER JOIN vendor ON orders.vendor_id=vendor.vendor_id
48     GROUP BY orders.vendor_id
49     ORDER BY sum(orders.total) DESC;
50
51
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

vendor_id	vendor_name	Total Sales
14	National Musical String Company	18662385
9	Kawai	16777500
4	Yamaha	15036800
8	Roland	13436030
1	Gibson	11607910
11	Fender	11039000
12	Gold Peak Industries	8937640
2	Harman Professional	8723725
13	Pioneer DJ	8370010
7	Sennheiser	4267200
5	Fender Musical Instruments	2952810

Result 5

Vendor Analysis - Top 5 vendor with highest revenue

```sql
37    #Top 5 vendor with highest revenue.
38 •  SELECT vendor.vendor_id, vendor.vendor_name, sum(orders.total) AS 'Total Sales'
39    FROM orders  INNER JOIN vendor  ON orders.vendor_id=vendor.vendor_id
40    GROUP BY vendor.vendor_id
41    ORDER BY sum(orders.total) DESC
42    LIMIT 5;
43
44
45    #Revenue generated by each vendor
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: | Fetch rows:

vendor_id	vendor_name	Total Sales
14	National Musical String Company	18662385
9	Kawai	16777500
4	Yamaha	15036800
8	Roland	13436030
1	Gibson	11607910

Update Order Total

```sql
130  UPDATE orders
131  SET orders.total = (
132  SELECT SUM(orderItem.quantity * (item.price * (1 - item.discount/100)))
133  FROM orderItem INNER JOIN item ON
134      orderItem.item_id = item.item_id
135      WHERE orders.order_id = orderItem.order_id
136      GROUP BY orderItem.order_id
137  );
```

order_id	customer_id	vendor_id	delivery_id	createdAt	deliveredAt	updatedAt	status	total
1	80	8	92	2021-08-16 14:24:31	2021-08-18 22:49:45	2021-08-25 05:49:45	Delivered	600000
2	94	75	27	2021-08-17 15:06:00	2021-08-18 19:19:43	2021-08-23 00:19:43	Delivered	3194800
3	8	19	74	2021-10-19 11:04:22	2021-10-21 21:28:05	2021-10-26 06:28:05	Delivered	47215
4	61	88	71	2020-03-20 17:05:52	2020-03-23 21:15:50	2020-03-28 02:15:50	Received	2767600
5	73	12	88	2021-07-16 17:40:03	2021-07-20 02:44:46	2021-07-25 04:44:46	Delivered	64000
6	143	9	31	2020-02-22 03:58:21	2020-02-25 05:14:42	NULL	In Progress	250000
7	80	99	54	2021-05-31 00:34:29	2021-06-02 10:38:14	2021-06-07 13:38:14	Delivered	30400

Update Item rating

```sql
update item i join
    (select item_id, avg(item_rating) as avgrating
     from rating r
     group by item_id
    ) r
    on i.item_id = r.item_id
set i.rating = r.avgrating;
```

item_id	item_name	year_of_production	price	rating	vendor_id	category_id	discount	description	coun
1	Yamaha Guitar F-600	2018	5900	NULL	1	6	5	Martin X Series guitars are made for musicians t…	Mexic
2	Yamaha Clavinova piano	2017	50000	NULL	7	5	0	The finest digital pianos that Yamaha makes, Cl…	Japar
3	Yamaha DTX402K	2016	30000	NULL	8	4	0	The drumming that you saw on TV, and the dru…	Japar
4	Yamaha YFL997CH	2020	20000	NULL	2	2	20	Inspired to start afresh, we went back to a clea…	Japar
5	Steinway Musical Guitar	2015	900000	NULL	6	6	0	The new Steinway Musical Guitar returns to the …	USA

item_id	item_name	year_of_production	price	rating	vendor_id	category_id	discount	description	cou
1	Yamaha Guitar F-600	2018	5900	3.6	1	6	5	Martin X Series guitars are made for musicians t…	Mex
2	Yamaha Clavinova piano	2017	50000	3	7	5	0	The finest digital pianos that Yamaha makes, Cl…	Japa
3	Yamaha DTX402K	2016	30000	3.75	8	4	0	The drumming that you saw on TV, and the dru…	Japa
4	Yamaha YFL997CH	2020	20000	4	2	2	20	Inspired to start afresh, we went back to a clea…	Japa
5	Steinway Musical Guitar	2015	900000	4	6	6	0	The new Steinway Musical Guitar returns to the …	USA

Update Rider rating

```sql
123  ●   UPDATE rider
124      SET rider.rating = (
125          SELECT ROUND(AVG(rating.rider_rating), 1)
126          FROM rating
127              WHERE rating.rider_id = rider.rider_id
128              GROUP BY rider.rider_id
129      );
```

Result Grid		Filter Rows:			Edit:			Export/Import:			Wrap Cell Content:	

	rider_id	firstName	lastName	dateofBirth	gender	phone_number	status	rating	createdAt
▶	1	Adora	Simco	2003-09-25	F	6695335034	active	5	2020-08-11 23:15:36
	2	Lonnard	Lumsdaine	1995-01-31	M	6645657825	active	5	2020-12-09 11:37:33
	3	Bethina	Foucar	1989-06-17	F	6681104920	inactive	1	2020-07-06 17:25:32
	4	Tito	Guerrieri	1982-06-09	M	6607196307	active	NULL	2020-09-17 11:23:26
	5	Felike	Croux	1990-04-07	M	6605618156	active	NULL	2020-05-24 00:00:22
	6	Krispin	Pendergrast	2004-01-12	M	6603045628	inactive	NULL	2020-10-31 05:48:34
	7	Marchall	Beatty	1994-12-26	M	6653504083	active	2	2020-08-21 21:35:05
	8	Sargent	Aitken	1994-06-25	M	6668164384	active	NULL	2020-02-26 15:54:41
	9	Tommy	Matthensen	2001-06-02	F	6616544083	active	3	2020-04-01 03:11:25
	10	Jodie	Rickerd	1982-06-15	M	6678129785	active	3	2020-11-30 16:28:40
	11	Katrinka	Folger	1989-01-15	F	6622781523	active	4	2020-05-18 16:36:27

Item Analysis - Overview

```sql
# Item Analysis - Overview
select c.category_id, c.category_name, count(c.category_id) as total,
max(i.price) as maximum,  min(i.price) as minimum, avg(i.rating) as average_rating
from category c left join item i
on i.category_id = c.category_id
group by c.category_id;
```

category_id	category_name	total	maximum	minimum	average_rating
1	Bowed Strings	1	450000	450000	3
2	WoodWind	2	100000	20000	3.350000023841858
3	Brass Instruments	1	18000	18000	3
4	Percussion instruments	5	300000	12000	3.15
5	Keyboard instruments	2	50000	7000	2.75
6	Guitar family	6	900000	1100	3.332133332888285
7	Idiophones	5	80000	6000	3.0083399772644044
8	Membranophones	3	55000	7000	3.349999984105428

OrderItem Analysis - Search for specific order_id

```sql
-- Search for specific order_id orderd by quantity --
SELECT * FROM orderItem
WHERE order_id = 77
ORDER BY quantity DESC;
```

orderItem_id	order_id	item_id	item_name	quantity
87	77	7	Gold Peak American Performer Mustang Bass	4
225	77	3	Yamaha DTX402K	4
85	77	19	Clarinet cl-C157	3
241	77	24	Tuba TU158	2
387	77	12	YVN500S Violin	1

Item Analysis - Top 5 item with highest rating

```
select * from item
where rating is not null
order by rating desc
limit 5;
```

item_id	item_name	year_of_production	price	rating	vendor_id	category_id	discount	description	country_name	creat
15	Kawai PSR-F52	2015	12000	4.6667	9	10	0	The PSR-F52 is the perfect keyboard for people...	Poland	2020-0
8	Rogers 5x14 Dyna-Sonic	2016	300000	4.5	15	4	10	THIS is the drum that "couldn't be built". This is ...	USA	2019-0
4	Yamaha YFL997CH	2020	20000	4	2	2	20	Inspired to start afresh, we went back to a clea...	Japan	2021-0
5	Steinway Musical Guitar	2015	900000	4	6	6	0	The new Steinway Musical Guitar returns to the ...	USA	2020-0
20	Bassoon Ba-B157	2013	6000	4	5	6	10	basson as the name would suggest, the bass m...	india	2020-0

Item Analysis - item categories by year

```sql
select
(select count(item_id) from project.item where (year(now()) - year_of_production)  < 5) as New,
(select count(item_id) from project.item where (year(now()) - year_of_production) between 5 and 10) as Middle,
(select count(item_id) from project.item where (year(now()) - year_of_production) > 10) as Classic;
```

	New	Middle	Classic
▶	4	24	2

Order Analysis - Sale separated by year

```sql
select year(createdAt) as year, count(order_id) as Total from orders
group by year;
```

year	Total
2022	67
2021	83

Order Analysis - Ranking of busiest month in 2021

```
61      -- Busiest month of 2021 with the most amount of orders delivered --
62  •   SELECT MONTH(createdAt) as Month, status, COUNT(order_id) AS NoOfOrders
63      FROM orders
64      WHERE status = 'Delivered' AND YEAR(createdAt) = 2021
65      GROUP BY EXTRACT(MONTH FROM createdAt)
66      ORDER BY NoOfOrders DESC;
```

Result Grid		
Month	status	NoOfOrders
8	Delivered	7
11	Delivered	5
12	Delivered	5
3	Delivered	4
5	Delivered	4
9	Delivered	3
1	Delivered	3
4	Delivered	3
7	Delivered	3
6	Delivered	2
2	Delivered	1
10	Delivered	1

Order Analysis - List of paid orders currently in progress

```sql
101     -- List of paid orders currently in progress --
102   ● SELECT o.order_id, CONCAT(cu.firstName, ' ', cu.lastName) AS CustomerName,
103     v.vendor_name, CONCAT(r.firstName, ' ', r.lastName) AS RiderName, o.status
104     FROM orders o
105     INNER JOIN customer cu ON o.customer_id = cu.customer_id
106     INNER JOIN vendor v ON o.vendor_id = v.vendor_id
107     INNER JOIN rider r ON o.rider_id = r.rider_id
108     INNER JOIN payment p ON o.order_id = p.order_id
109     WHERE o.status = 'In Progress' AND p.payment_status = 'Completed'
110     ORDER BY o.order_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

order_id	CustomerName	vendor_name	RiderName	status
6	Brendon Hallagan	Rogers Drums	Marylynne Eates	In Progress
11	Tiffani Heinke	Kawai	Arin Jakeman	In Progress
13	Malynda Gelderd	Gibson	Lanette Perfili	In Progress
20	Alvin Laffranconi	Roland	Siana Simcoe	In Progress
21	Audie Windus	Fender Musical Instruments	Ariana Burren	In Progress
35	Hamil Finlayson	Pioneer DJ	Doralyn Fawdrey	In Progress
37	Charlton Corzon	Rogers Drums	Anatol Hordell	In Progress
38	Sada McMurray	Pioneer DJ	Muriel Lared	In Progress

Rating Analysis - Average rating

```sql
select customer_id, avg(item_rating) as AVGitemrating, avg(rider_rating) as AVGriderrating
from rating
group by customer_id
order by customer_id;
```

customer_id	AVGitemrating	AVGriderrating
1	4.0000	5.0000
2	4.3333	2.6667
3	5.0000	3.0000
4	1.0000	2.0000
7	3.5000	1.5000
8	3.3333	3.0000
10	2.0000	5.0000
12	5.0000	2.0000
13	2.0000	4.0000
15	3.0000	5.0000
17	2.0000	2.7500

Rating analysis - Count of customers who have rated or not

```sql
# count of customes who have rating or not
SELECT
(SELECT COUNT(cu.customer_id) FROM customer cu LEFT JOIN rating o
ON cu.customer_id = o.rating_id
WHERE o.rating_id IS NULL ORDER BY cu.customer_id) AS Neverrated,
(SELECT COUNT(DISTINCT customer_id) FROM rating) AS Orating;
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:

	Neverrated	Orating
▶	50	97

Rider Analysis -
Top 5 active riders by rating for Nov

```sql
-- Top 5 active riders according to rating for November --
SELECT r.rider_id, CONCAT(r.firstName, ' ', r.lastName) as Full_Name,
r.dateofBirth, r.gender, r.status, r.rating
FROM rider r INNER JOIN orders o
ON r.rider_id = o.rider_id
WHERE EXTRACT(MONTH FROM o.createdAt) = 11
AND r.status = 'active'
ORDER BY r.rating DESC LIMIT 5;
```

Result Grid | Filter Rows: | Export: | Wrap

rider_id	Full_Name	dateofBirth	gender	status	rating
98	Towney McRitchie	1996-02-29	M	active	5
35	Marylynne Eates	1986-05-08	NULL	active	3.7
53	Perle Lanmeid	1988-02-22	F	active	3
34	Odo Feely	1993-04-01	M	active	2
50	Gabby Gerbi	1989-06-19	M	active	1

Payment Analysis -
Method payment and status summary

```sql
# Payment Analysis - Payment Summary
select payment_method as Method_Status, count(payment_id) as total from payment
group by payment_method
union
select payment_status, count(payment_status) from payment
group by payment_status;
```

Method_Status	total
COD	71
E-payment	79
Pending	52
Completed	98

Payment Analysis - Transaction via E-payment

```sql
SELECT payment_method, paymentAt FROM project.payment WHERE payment_method = 'E-payment' ORDER BY paymentAt DESC;
```

#	payment_method	paymentAt
1	E-payment	2022-09-12 08:53:06
2	E-payment	2022-08-27 18:38:55
3	E-payment	2022-08-18 11:53:43
4	E-payment	2022-08-17 13:06:15
5	E-payment	2022-07-29 00:36:04
6	E-payment	2022-07-28 00:53:10
7	E-payment	2022-06-29 03:19:06
8	E-payment	2022-06-28 18:09:10
9	E-payment	2022-06-26 12:15:46
10	E-payment	2022-06-25 02:56:28
11	E-payment	2022-06-11 01:53:12
12	E-payment	2022-06-04 04:45:08
13	E-payment	2022-05-26 09:25:30
14	E-payment	2022-05-20 08:57:04
15	E-payment	2022-05-18 04:29:18
16	E-payment	2022-05-10 05:47:39
17	E-payment	2022-05-08 08:17:37
18	E-payment	2022-05-07 22:09:51
19	E-payment	2022-05-01 19:09:51
20	E-payment	2022-05-01 07:19:28
21	E-payment	2022-04-28 15:43:36
22	E-payment	2022-04-26 02:05:20
23	E-payment	2022-04-13 04:57:30
24	E-payment	2022-02-27 02:01:14

Payment Analysis - Transaction via Cash on Delivery

```sql
SELECT payment_method, paymentAt FROM project.payment WHERE payment_method = 'COD' ORDER BY paymentAt DESC;
```

#	payment_method	paymentAt
1	COD	2022-09-07 14:28:45
2	COD	2022-09-01 20:04:23
3	COD	2022-09-01 12:03:18
4	COD	2022-08-26 19:38:22
5	COD	2022-08-21 15:39:44
6	COD	2022-08-19 07:05:16
7	COD	2022-08-17 01:52:21
8	COD	2022-08-14 12:38:10
9	COD	2022-08-09 07:02:41
10	COD	2022-08-06 14:48:45
11	COD	2022-07-12 23:18:08
12	COD	2022-07-08 11:46:38
13	COD	2022-06-25 04:52:49
14	COD	2022-06-12 02:16:36
15	COD	2022-05-08 19:49:35
16	COD	2022-04-29 12:38:10
17	COD	2022-04-24 06:35:14
18	COD	2022-04-22 16:17:33
19	COD	2022-04-05 20:40:24
20	COD	2022-03-26 16:37:19
21	COD	2022-03-23 04:40:03
22	COD	2022-03-08 19:58:30
23	COD	2022-03-01 18:04:05
24	COD	2022-02-26 15:15:48
25	COD	2022-02-16 12:16:10
26	COD	2022-02-10 13:59:53
27	COD	2022-01-31 09:29:44

Payment Analysis -
List of customers who pay by COD

```sql
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_method, pm.paymentAt, ctm.dateofBirth, ctm.phone_number, ctm.email, ctm.primary_address
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_method = 'COD'
ORDER BY pm.paymentAt DESC;
```

#	CustomerName	payment_method	paymentAt	dateofBirth	phone_numbe	email	primary_address
1	Grady Menhenitt	COD	2022-09-07 14:28:45	1959-06-16	6666046181	gmenhenitt2y@1688.com	Wat Sam Phraya, Phra Nakhon, Bangkok, 1...
2	Zachery Musk	COD	2022-09-01 20:04:23	1952-01-09	6604458768	zmuskw@npr.org	Khlong Chak Phra, Taling Chan, Bangkok, 1...
3	Katharyn Lehrer	COD	2022-09-01 12:03:18	1987-06-13	6693892677	klehrer1b@vk.com	Samre, Thonburi, Bangkok, 10600
4	Kalli Pywell	COD	2022-08-26 19:38:22	1990-08-20	6688685766	kpywell1h@163.com	Arun Ammarin, Bangkok Noi, Bangkok, 10700
5	Gabe Woodthorpe	COD	2022-08-21 15:39:44	1976-02-03	6695499264	gwoodthorpe3@icio.us	Somdet Chao Phraya, Khlong San, Bangkok...
6	Elsi Nicholls	COD	2022-08-19 07:05:16	1975-11-19	6637195447	enicholls2@wiley.com	Bang Lamphu Lang, Khlong San, Bangkok, ...
7	Forest Onge	COD	2022-08-17 01:52:21	1973-10-31	6669051096	fonge2b@usatoday.com	Nawamin, Bueng Kum, Bangkok, 10240
8	Peggi Marham	COD	2022-08-14 12:38:10	1984-12-13	6640578655	pmarham1d@is.gd	Bang Khun Non, Bangkok Noi, Bangkok, 10...
9	Coretta Czajka	COD	2022-08-09 07:02:41	1965-11-27	6604784746	cczajkav@w3.org	Si Yaek Mahanak, Dusit, Bangkok, 10300
10	Hettie Burnie	COD	2022-08-06 14:48:45	1994-08-07	6622301279	hburnieu@phoca.cz	Suan Chitlada, Dusit, Bangkok, 10300
11	Ches Ridsdell	COD	2022-07-12 23:18:08	1955-07-20	6667133553	cridsdell43@wordpress...	Talat Noi, Samphanthawong, Bangkok, 10100
12	Auria Mapstone	COD	2022-07-08 11:46:38	1958-10-27	6691549986	amapstone1y@indiego...	Bang O, Bang Phlat, Bangkok, 10700
13	Nathanial Pouls...	COD	2022-06-25 04:52:49	1990-07-07	6671597463	npoulsum3d@economi...	Chong Nonsi, Yannawa, Bangkok, 10120
14	Louie Steet	COD	2022-06-12 02:16:36	1974-01-13	6633649465	lsteeti@chronoengine.c...	Sena Nikhom, Chatuchak, Bangkok, 10900
15	Florenza Studdard	COD	2022-05-08 19:49:35	1996-06-03	6689084421	fstuddard21@cnbc.com	Si Phraya, Bang Rak, Bangkok, 10500
16	Nanine Spanswick	COD	2022-04-29 12:38:10	1950-03-13	6668727921	nspanswick3h@digg.com	Thung Phaya Thai, Ratchathewi, Bangkok, 1...
17	Patrizius Anders...	COD	2022-04-24 06:35:14	2001-01-29	6683308073	pandersson1p@privacy...	Bang Khlo, Bang Kho Laem, Bangkok, 10120
18	Maressa Titcumb	COD	2022-04-22 16:17:33	2009-03-28	6685269945	mtitcumb1v@domainm...	Bang Bamru, Bang Phlat, Bangkok, 10700
19	Brendon Hallagan	COD	2022-04-05 20:40:24	1964-06-14	6695351457	bohallagan1g@nyu.edu	Sirirat, Bangkok Noi, Bangkok, 10700

Payment Analysis -
List of customers who pay by E-payment

```sql
-- List of customers who pay by COD
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_method, pm.paymentAt, ctm.dateofBirth, ctm.phone_number, ctm.email, ctm.primary_address
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_method = 'E-payment'
ORDER BY pm.paymentAt DESC;
```

#	CustomerName	payment_method	paymentAt	dateofBirth	phone_numbe	email	primary_address
1	Jedediah Vivien	E-payment	2022-09-12 08:53:06	1989-06-18	6636848837	jvivien7@adobe.com	Sam Wa Tawan Tok, Khlong Sam Wa, Bang...
2	Demetre Pasmore	E-payment	2022-08-27 18:38:55	1949-05-25	6654569645	dpasmore23@soundcl...	Suriyawong, Bang Rak, Bangkok, 10500
3	Gerladina Ashbr...	E-payment	2022-08-18 11:53:43	2004-08-03	6638862286	gashbrook1n@jimdo.com	Samae Dam, Bang Khun Thian, Bangkok, 1...
4	Benedicto Dablin	E-payment	2022-08-17 13:06:15	1945-08-05	6613733699	bdablin3a@wundergro...	Pak Khlong Phasi Charoen, Phasi Charoen, ...
5	Laird Pilling	E-payment	2022-07-29 00:36:04	2008-12-04	6673069148	lpilling1a@friendfeed.com	Wat Kanlaya, Thonburi, Bangkok, 10600
6	Martyn Seefeldt	E-payment	2022-07-28 00:53:10	1949-09-21	6644849219	mseefeldt40@chicagotr...	Suan Luang, Suan Luang, Bangkok, 10250
7	Aloin Workes	E-payment	2022-06-29 03:19:06	1966-12-31	6679802209	aworkes2k@godaddy.c...	Khlong Maha Nak, Pom Prap Sattru Phai, B...

Payment Analysis -
List of customers completed payments

```sql
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_status, pm.paymentAt
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_status = 'Completed'
ORDER BY pm.paymentAt DESC;
```

#	CustomerName	payment_status	paymentAt
1	Jedediah Vivien	Completed	2022-09-12 08:53:06
2	Grady Menhenitt	Completed	2022-09-07 14:28:45
3	Zachery Musk	Completed	2022-09-01 20:04:23
4	Katharyn Lehrer	Completed	2022-09-01 12:03:18
5	Gabe Woodthorpe	Completed	2022-08-21 15:39:44
6	Elsi Nicholls	Completed	2022-08-19 07:05:16
7	Gerladina Ashbr…	Completed	2022-08-18 11:53:43
8	Benedicto Dablin	Completed	2022-08-17 13:06:15
9	Hettie Burnie	Completed	2022-08-06 14:48:45
10	Laird Pilling	Completed	2022-07-29 00:36:04
11	Auria Mapstone	Completed	2022-07-08 11:46:38
12	Neel Arrighetti	Completed	2022-06-28 18:09:10
13	Louie Steet	Completed	2022-06-12 02:16:36
14	Dionysus Shear…	Completed	2022-05-26 09:25:30
15	Zsa zsa Grimster	Completed	2022-05-20 08:57:04
16	Sandi Box	Completed	2022-05-18 04:29:18

Payment Analysis -
List of customers pending payments

```sql
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_status, pm.paymentAt
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_status = 'Pending'
ORDER BY pm.paymentAt DESC;
```

#	CustomerName	payment_status	paymentAt
1	Demetre Pasmore	Pending	2022-08-27 18:38:55
2	Kalli Pywell	Pending	2022-08-26 19:38:22
3	Forest Onge	Pending	2022-08-17 01:52:21
4	Peggi Marham	Pending	2022-08-14 12:38:10
5	Coretta Czajka	Pending	2022-08-09 07:02:41
6	Martyn Seefeldt	Pending	2022-07-28 00:53:10
7	Ches Ridsdell	Pending	2022-07-12 23:18:08
8	Aloin Workes	Pending	2022-06-29 03:19:06
9	Clarita Lardeur	Pending	2022-06-26 12:15:46
10	Nathanial Pouls…	Pending	2022-06-25 04:52:49
11	Inna Hagger	Pending	2022-06-25 02:56:28
12	Malynda Gelderd	Pending	2022-06-11 01:53:12
13	Deanne Lung	Pending	2022-06-04 04:45:08
14	Nanine Spanswick	Pending	2022-04-29 12:38:10
15	Mariette Ferenc	Pending	2022-04-28 15:43:36
16	Patrizius Anders…	Pending	2022-04-24 06:35:14

Payment Analysis -
The latest payment by COD

```sql
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_method, pm.paymentAt
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_method = 'COD'
ORDER BY pm.paymentAt DESC
LIMIT 1;
```

#	CustomerName	payment_method	paymentAt
1	Grady Menhenitt	COD	2022-09-07 14:28:45

Payment Analysis -
The latest payment by E-payment

```sql
SELECT CONCAT(ctm.firstName, ' ', ctm.lastName) as CustomerName, pm.payment_method, pm.paymentAt
FROM payment pm
INNER JOIN customer ctm on pm.order_id = ctm.customer_id
WHERE pm.payment_method = 'E-payment'
ORDER BY pm.paymentAt DESC
LIMIT 1;
```

#	CustomerName	payment_method	paymentAt
1	Jedediah Vivien	E-payment	2022-09-12 08:53:06

Item Analysis - No. of item segregated by rating

```sql
57    #No. of item segregated by rating
58 •  SELECT
59    (SELECT count(*) FROM (SELECT item.item_id FROM item
60     WHERE item.rating<2.50 ) x) as 'Low Rated',
61    (SELECT count(*) FROM (SELECT item.item_id FROM item
62     WHERE item.rating>=2.50 AND item.rating<=4.0 ) x) as 'AVG Rated',
63    (SELECT count(*) FROM (SELECT item.item_id FROM item
64     WHERE item.rating>4.0 ) x) as 'High Rated';
65
66
```
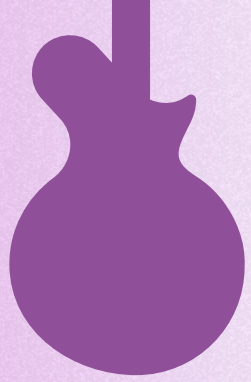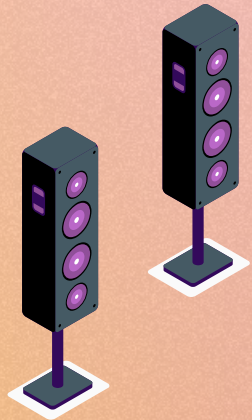
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Low Rated	AVG Rated	High Rated
2	11	17

Questions/
Comments?

Q/A - Query summarizing payment method, total price and amount

```sql
-- query summarizing payment methods, total amounts, total orders
SELECT p.payment_method, COUNT(o.order_id) AS TotalOrders,
SUM(o.total) as TotalPrice
FROM payment p INNER JOIN orders o
ON p.order_id = o.order_id
GROUP BY payment_method;
```

Result Grid	Filter Rows:		
	payment_method	TotalOrders	TotalPrice
▶	COD	71	61459730
	E-payment	79	72162500

Thank you!