SQL

Basic Queries for Data Retrieval on Single table (Movies table) using (SELECT,WHERE,DISTINCT,LIKE,BETWEEN,ORDER BY)

- **Print all movie titles and release year for all Marvel Studios movies.**

```
SELECT title,studio,release_year FROM movies WHERE studio ="Marvel Studios";
```

title	studio	release_year
Doctor Strange in the Multiverse of Madness	Marvel Studios	2022
Thor: The Dark World	Marvel Studios	2013
Thor: Ragnarok	Marvel Studios	2017
Thor: Love and Thunder	Marvel Studios	2022
Avengers: Endgame	Marvel Studios	2019
Avengers: Infinity War	Marvel Studios	2018
Captain America: The First Avenger	Marvel Studios	2011
Captain America: The Winter Soldier	Marvel Studios	2014

- **Print all movies that have Avenger in their name.**

```
SELECT title FROM movies WHERE title like "%Avenger%";
```

title
Avengers: Endgame
Avengers: Infinity War
Captain America: The First Avenger

- **Print the year when the movie "The Godfather" was released.**

```
SELECT release_year,title FROM movies WHERE title ="The Godfather";
```

release_year	title
1972	The Godfather

Kishan Chand

- **Print all distinct movie studios in the Bollywood industry**

```
SELECT DISTINCT studio FROM movies WHERE industry ="Bollywood";
```

studio
Arka Media Works
Dharma Productions
DVV Entertainment
Government of West Bengal
Hombale Films
Mythri Movie Makers
Salman Khan Films
United Producers
Vinod Chopra Films
Vinod Chopra Productions
Yash Raj Films
Zee Studios

- **Print all movies in the order of their release year (latest first)**

```
select * from movies order by release_year desc;
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
142	Pushpa The Rule	Bollywood	2023	8.0	Mythri Movie Makers	2
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	7.0	Marvel Studios	5
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1
105	Thor: Love and Thunder	Hollywood	2022	6.8	Marvel Studios	5
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
140	Shershaah	Bollywood	2021	8.4	Dharma Productions	1
132	Pushpa: The Rise - Part 1	Bollywood	2021	7.6	Mythri Movie Makers	2
125	Avengers: Endgame	Hollywood	2019	8.4	Marvel Studios	5
124	Parasite	Hollywood	2019	8.5		5
131	Sanju	Bollywood	2018	NULL	Vinod Chopra Films	1
126	Avengers: Infinity War	Hollywood	2018	8.4	Marvel Studios	5
139	Race 3	Bollywood	2018	1.9	Salman Khan Films	1
104	Thor: Ragnarok	Hollywood	2017	7.9	Marvel Studios	5

- **All movies released in the year 2022**

```
select * from movies where release_year ="2022";
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	7.0	Marvel Studios	5
105	Thor: Love and Thunder	Hollywood	2022	6.8	Marvel Studios	5
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1

- **Retrieve all the Rows Where the movies released after 2020**

```
select * from movies where release_year > "2020";
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	7.0	Marvel Studios	5
105	Thor: Love and Thunder	Hollywood	2022	6.8	Marvel Studios	5
132	Pushpa: The Rise - Part 1	Bollywood	2021	7.6	Mythri Movie Makers	2
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1
140	Shershaah	Bollywood	2021	8.4	Dharma Productions	1
142	Pushpa The Rule	Bollywood	2023	8.0	Mythri Movie Makers	2

- **Retrieve All the movies after the year 2020 that have more than 8 rating**

```
select * from movies where release_year > "2020" and imdb_rating>=8.0 ;
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
140	Shershaah	Bollywood	2021	8.4	Dharma Productions	1
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2
142	Pushpa The Rule	Bollywood	2023	8.0	Mythri Movie Makers	2

- **Select all movies that are by Marvel studios and Hombale Films**

```
select * from movies where studio ="Hombale Films"or studio ="Marvel studios";
```

(OR)

```
select * from movies where studio in ("Hombale Films","Marvel studios");
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	7.0	Marvel Studios	5
103	Thor: The Dark World	Hollywood	2013	6.8	Marvel Studios	5
104	Thor: Ragnarok	Hollywood	2017	7.9	Marvel Studios	5
105	Thor: Love and Thunder	Hollywood	2022	6.8	Marvel Studios	5
125	Avengers: Endgame	Hollywood	2019	8.4	Marvel Studios	5
126	Avengers: Infinity War	Hollywood	2018	8.4	Marvel Studios	5
137	Captain America: The First Avenger	Hollywood	2011	6.9	Marvel Studios	5
138	Captain America: The Winter Soldier	Hollywood	2014	7.8	Marvel Studios	5

- **Select all THOR movies by their release year**

```
select title,release_year from movies where title LIKE "%Thor%" order by release_year asc;
```

title	release_year
Thor: The Dark World	2013
Thor: Ragnarok	2017
Thor: Love and Thunder	2022

- **Select all movies that are not from Marvel Studios**

```
select * from movies where studio != "Marvel Studios";
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1
107	Dilwale Dulhania Le Jayenge	Bollywood	1995	8.0	Yash Raj Films	1
112	Inception	Hollywood	2010	8.8	Warner Bros. Pictures	5
113	Interstellar	Hollywood	2014	8.6	Warner Bros. Pictures	5
129	Munna Bhai M.B.B.S.	Bollywood	2003	8.1	Vinod Chopra Productions	1
108	3 Idiots	Bollywood	2009	8.4	Vinod Chopra Films	1
130	PK	Bollywood	2014	8.1	Vinod Chopra Films	1
131	Sanju	Bollywood	2018	NULL	Vinod Chopra Films	1
116	Gladiator	Hollywood	2000	8.5	Universal Pictures	5
122	Schindler's List	Hollywood	1993	9.0	Universal Pictures	5
123	Jurassic Park	Hollywood	1993	8.2	Universal Pictures	5

Basic Queries for Summary analytics (MIN, MAX, AVG, GROUP BY) on movies table

- **How many movies were released between 2015 and 2022**

```
SELECT COUNT(*) as release_count  FROM MOVIES WHERE release_year >=2015 and release_year<=2022;
```

(OR)

```
SELECT COUNT(*) as release_count  FROM MOVIES WHERE release_year BETWEEN 2015 and 2022;
```

release_count
16

```
SELECT * FROM MOVIES WHERE release_year >=2015 and release_year<=2022;
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
110	Bajirao Mastani	Bollywood	2015	7.2		1
134	Baahubali: The Beginning	Bollywood	2015	8.0	Arka Media Works	2
136	Bajrangi Bhaijaan	Bollywood	2015	8.1	Salman Khan Films	1
104	Thor: Ragnarok	Hollywood	2017	7.9	Marvel Studios	5
126	Avengers: Infinity War	Hollywood	2018	8.4	Marvel Studios	5
131	Sanju	Bollywood	2018	NULL	Vinod Chopra Films	1
139	Race 3	Bollywood	2018	1.9	Salman Khan Films	1
124	Parasite	Hollywood	2019	8.5		5
125	Avengers: Endgame	Hollywood	2019	8.4	Marvel Studios	5
132	Pushpa: The Rise - Part 1	Bollywood	2021	7.6	Mythri Movie Makers	2
140	Shershaah	Bollywood	2021	8.4	Dharma Productions	1
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	7.0	Marvel Studios	5
105	Thor: Love and Thunder	Hollywood	2022	6.8	Marvel Studios	5
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2

- **Print the max and min movie release year**

```
SELECT MIN(release_year) AS MIN_Year,MAX(release_year) AS MAX_Year FROM movies;
```

MIN_Year	MAX_Year
1946	2023

- **Print a year and how many movies were released in that year starting with the latest year**

```
SELECT release_year,COUNT(*) as release_count FROM movies GROUP BY(release_year) ORDER BY release_year DESC;
```

release_year	release_count
2023	1
2022	5
2021	2
2019	2
2018	3
2017	1
2015	3
2014	3
2013	1
2011	1
2010	1
2009	2
2008	1
2007	1
2006	1
2003	1
2001	1
2000	1
1997	1
1995	1
1994	1
1993	2
1975	1
1972	1
1955	1
1946	1

- **Print profit % for all the movies**

```
SELECT *,(revenue-budget)*100/budget as Profit_precentage from financials;
```

movie_id	budget	revenue	unit	currency	profit	Profit_precentage
101	1.00	12.50	Billions	INR	11.50	1150.000000
102	200.00	954.80	Millions	USD	754.80	377.400000
103	165.00	644.80	Millions	USD	479.80	290.787879
104	180.00	854.00	Millions	USD	674.00	374.444444
105	250.00	670.00	Millions	USD	420.00	168.000000
107	400.00	2000.00	Millions	INR	1600.00	400.000000
108	550.00	4000.00	Millions	INR	3450.00	627.272727
109	390.00	1360.00	Millions	INR	970.00	248.717949
110	1.40	3.50	Billions	INR	2.10	150.000000
111	25.00	73.30	Millions	USD	48.30	193.200000
113	165.00	701.80	Millions	USD	536.80	325.333333
114	205.00	365.30	Millions	USD	160.30	78.195122
115	55.00	307.10	Millions	USD	252.10	458.363636
116	103.00	460.50	Millions	USD	357.50	347.087379

Basic Queries for Data Retrieval on Multiple tables using SQL Joins(INNER,LEFT,RIGHT,FULL)

- **Show all the movies with their language names**

```
SELECT
title,name,movies.language_id
FROM movies
LEFT JOIN languages
ON movies.language_id =languages.language_id;
```

title	name	language_id
Jurassic Park	English	5
K.G.F: Chapter 2	Kannada	3
Kabhi Khushi Kabhie Gham	Hindi	1
Munna Bhai M.B.B.S.	Hindi	1
Parasite	English	5
Pather Panchali	Bengali	7
PK	Hindi	1
Pushpa The Rule	Telugu	2
Pushpa: The Rise - Part 1	Telugu	2
Race 3	Hindi	1
RRR	Telugu	2
Sanju	Hindi	1
Schindler's List	English	5
Shershaah	Hindi	1
Sholay	Hindi	1

- **Show all Telugu movie names (assuming you don't know the language id for Telugu)**

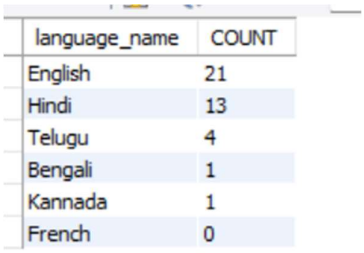
```
SELECT title , movies.language_id
FROM movies
LEFT JOIN languages
ON movies.language_id =languages.language_id
WHERE languages.name="Telugu";
```

title	language_id
Pushpa: The Rise - Part 1	2
RRR	2
Baahubali: The Beginning	2
Pushpa The Rule	2

- **Show the language and number of movies released in that language**

```
SELECT languages.name as language_name,count(movies.language_id) as COUNT
FROM languages
LEFT JOIN movies
ON movies.language_id =languages.language_id
```

```
GROUP BY(movies.language_id)
ORDER BY(COUNT) desc;
```



language_name	COUNT
English	21
Hindi	13
Telugu	4
Bengali	1
Kannada	1
French	0

- **Generate a report of all Hindi movies sorted by their revenue amount in millions.Print movie name, revenue, currency, and unit**

```
SELECT m.title,l.name,f.revenue,f.currency,f.unit,
    CASE
    WHEN unit ="Billions" THEN ROUND(revenue*1000,2)
    WHEN unit ="Thousands" THEN ROUND(revenue/1000,2)
    ELSE revenue
    END as Revenue_mlns
FROM movies m
JOIN financials f ON m.movie_id =f.movie_id
JOIN languages l ON l.language_id =m.language_id
WHERE l.name="Hindi"
ORDER BY Revenue_mlns DESC
```

title	name	revenue	currency	unit	Revenue_mlns
Bajrangi Bhaijaan	Hindi	11690.00	INR	Millions	11690.00
PK	Hindi	8540.00	INR	Millions	8540.00
Sanju	Hindi	5.90	INR	Billions	5900.00
3 Idiots	Hindi	4000.00	INR	Millions	4000.00
Bajirao Mastani	Hindi	3.50	INR	Billions	3500.00
The Kashmir Files	Hindi	3409.00	INR	Millions	3409.00
Race 3	Hindi	3.10	INR	Billions	3100.00
Dilwale Dulhania Le Jayenge	Hindi	2000.00	INR	Millions	2000.00
Kabhi Khushi Kabhie Gham	Hindi	1360.00	INR	Millions	1360.00
Taare Zameen Par	Hindi	1350.00	INR	Millions	1350.00
Shershaah	Hindi	950.00	INR	Millions	950.00
Munna Bhai M.B.B.S.	Hindi	410.00	INR	Millions	410.00

Complex Queries for Data Retrieval using Sub-Queries and CTE'S

- **Select all the movies with minimum and maximum release_year. Note that there can be more than one movie in min and a max year hence output rows can be more than 2**

```
SELECT *  FROM movies    WHERE release_year in ((SELECT MIN(release_year) FROM movies),(SELECT MAX(release_year) FROM movies));
```

movie_id	title	industry	release_year	imdb_rating	studio	language_id
118	It's a Wonderful Life	Hollywood	1946	8.6	Liberty Films	5
142	Pushpa The Rule	Bollywood	2023	8.0	Mythri Movie Makers	2

- **Select all the rows from the movies table whose imdb_rating is higher than the average rating**

```
SELECT * FROM movies WHERE imdb_rating > (SELECT AVG(imdb_rating) from movies);
```

avg_rating
7.94872

movie_id	title	industry	release_year	imdb_rating	studio	language_id
101	K.G.F: Chapter 2	Bollywood	2022	8.4	Hombale Films	3
106	Sholay	Bollywood	1975	8.1	United Producers	1
107	Dilwale Dulhania Le Jayenge	Bollywood	1995	8.0	Yash Raj Films	1
108	3 Idiots	Bollywood	2009	8.4	Vinod Chopra Films	1
111	The Shawshank Redemption	Hollywood	1994	9.3	Castle Rock Entertainment	5
112	Inception	Hollywood	2010	8.8	Warner Bros. Pictures	5
113	Interstellar	Hollywood	2014	8.6	Warner Bros. Pictures	5
115	The Pursuit of Happyness	Hollywood	2006	8.0	Columbia Pictures	5
116	Gladiator	Hollywood	2000	8.5	Universal Pictures	5
118	It's a Wonderful Life	Hollywood	1946	8.6	Liberty Films	5
120	The Godfather	Hollywood	1972	9.2	Paramount Pictures	5
121	The Dark Knight	Hollywood	2008	9.0	Syncopy	5
122	Schindler's List	Hollywood	1993	9.0	Universal Pictures	5
123	Jurassic Park	Hollywood	1993	8.2	Universal Pictures	5
124	Parasite	Hollywood	2019	8.5		5
125	Avengers: Endgame	Hollywood	2019	8.4	Marvel Studios	5
126	Avengers: Infinity War	Hollywood	2018	8.4	Marvel Studios	5
127	Pather Panchali	Bollywood	1955	8.3	Government of West Bengal	7
128	Taare Zameen Par	Bollywood	2007	8.3		1
129	Munna Bhai M.B.B.S.	Bollywood	2003	8.1	Vinod Chopra Productions	1
130	PK	Bollywood	2014	8.1	Vinod Chopra Films	1
133	RRR	Bollywood	2022	8.0	DVV Entertainment	2
134	Baahubali: The Beginning	Bollywood	2015	8.0	Arka Media Works	2
135	The Kashmir Files	Bollywood	2022	8.3	Zee Studios	1
136	Bajrangi Bhaijaan	Bollywood	2015	8.1	Salman Khan Films	1
140	Shershaah	Bollywood	2021	8.4	Dharma Productions	1

- **Select all Hollywood movies released after the year 2000 that made more than 500 million $ profit or more profit. Note that all Hollywood movies have millions as a unit hence you don't need to do the unit conversion. Also, you can write this query without CTE as well but you should try to write this using CTE only**

```
with  a as (SELECT * FROM movies),

        b as (SELECT *,(revenue-budget*100/budget) as Pct_Profit from financials
WHERE (revenue-budget*100/budget)>500)

SELECT

    a.movie_id,a.title,a.industry,a.release_year,
```

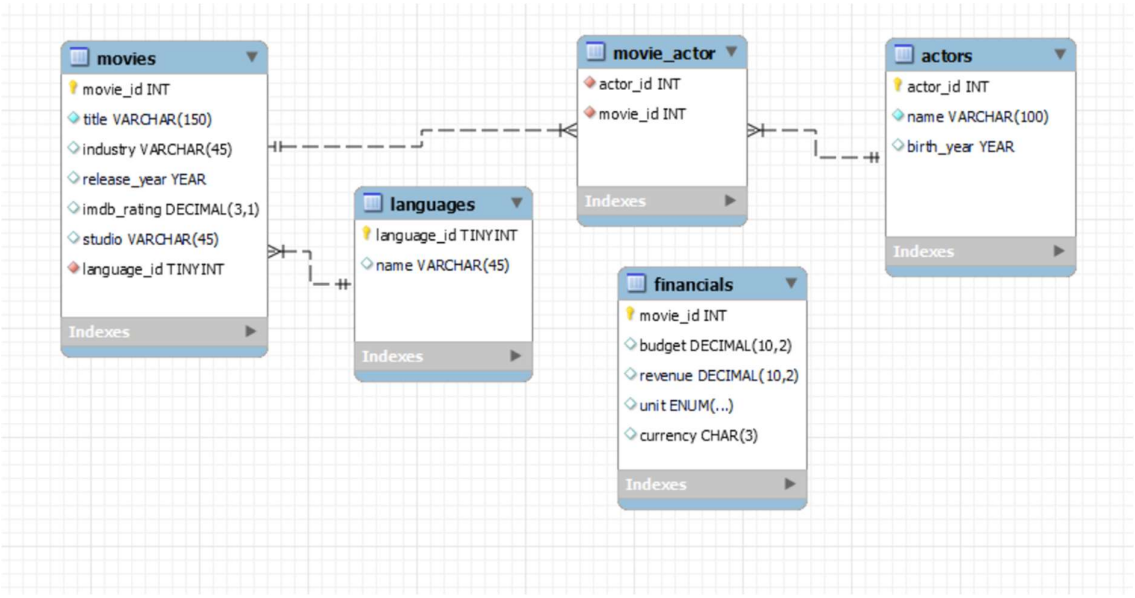
```
    b.unit,b.Pct_Profit

    FROM a

    JOIN b    ON a.movie_id =b.movie_id    WHERE industry="Hollywood" AND
release_year>2000;
```

movie_id	title	industry	release_year	unit	Pct_Profit
121	The Dark Knight	Hollywood	2008	Millions	906.000000
119	Avatar	Hollywood	2009	Millions	2747.000000
103	Thor: The Dark World	Hollywood	2013	Millions	544.800000
113	Interstellar	Hollywood	2014	Millions	601.800000
138	Captain America: The Winter Soldier	Hollywood	2014	Millions	614.400000
104	Thor: Ragnarok	Hollywood	2017	Millions	754.000000
126	Avengers: Infinity War	Hollywood	2018	Millions	1948.000000
125	Avengers: Endgame	Hollywood	2019	Millions	2698.000000
102	Doctor Strange in the Multiverse of Madness	Hollywood	2022	Millions	854.800000
105	Thor: Love and Thunder	Hollywood	2022	Millions	570.000000

Entity Relationship Diagram for movies data



Creating Finance Analytics Reports using(Stored Procedures,Functions,DataBaseViews)

- **Generate a report of individual product sales(aggregated on a monthly basis at the product code level) for Croma India customer for FY=2021,Where report should have below following fields Month Product Name, Variant, Sold Quantity, Gross Price Per Item, Gross Price Total**

```
SELECT
    fsm.date,p.product_code,p.product,p.variant,
    fsm.sold_quantity,fgp.gross_price,fgp.fiscal_year,
    ROUND(fsm.sold_quantity * fgp.gross_price,2) as Gross_Price_Total
        FROM fact_sales_monthly as fsm
    JOIN dim_product as p
    ON fsm.product_code = p.product_code
    JOIN fact_gross_price as fgp
    ON fsm.product_code = fgp.product_code
    and fgp.fiscal_year = get_fiscal_year(fsm.date)
    WHERE customer_code="90002002" and get_fiscal_year(date)=2021
    ORDER BY date;
```

date	product_code	product	variant	sold_quantity	gross_price	fiscal_year	Gross_Price_Total
2020-09-01	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	202	19.0573	2021	3849.57
2020-09-01	A0118150102	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Plus	162	21.4565	2021	3475.95
2020-09-01	A0118150103	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Premium	193	21.7795	2021	4203.44
2020-09-01	A0118150104	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Premium Plus	146	22.9729	2021	3354.04
2020-09-01	A0219150201	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Standard	149	23.6987	2021	3531.11
2020-09-01	A0219150202	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Plus	107	24.7312	2021	2646.24
2020-09-01	A0220150203	AQ WereWolf NAS Internal Hard Drive HDD – 8....	Premium	123	23.6154	2021	2904.69
2020-09-01	A0320150301	AQ Zion Saga	Standard	146	23.7223	2021	3463.46
2020-09-01	A0321150302	AQ Zion Saga	Plus	236	27.1027	2021	6396.24
2020-09-01	A0321150303	AQ Zion Saga	Premium	137	28.0059	2021	3836.81

- **Generate a yearly report for Croma India where there are two columns**

    1. **Fiscal Year**
    2. **Total Gross Sales amount In that year from Croma**

```
SELECT
    get_fiscal_year(fsm.date) as Year,SUM(fgp.gross_price*fsm.sold_quantity) as Gross_Total_Price
    FROM fact_sales_monthly as fsm
    JOIN fact_gross_price as fgp
    ON fsm.product_code =fgp.product_code and fgp.fiscal_year = get_fiscal_year(fsm.date)
    WHERE customer_code = "90002002"
    GROUP BY(Year)
    ORDER BY Year;
```

Year	Gross_Total_Price
2018	1324097.4432
2019	3555079.0199
2020	6502181.9143
2021	23216512.2215
2022	44638198.9219

- **Create a view for gross sales. It should have the following columns,date, fiscal_year, customer_code, customer, market, product_code,product,variant,sold_quanity,gross_price_per_item,gross_price_total**

```
SELECT
    fsm.date AS date, fgp.fiscal_year AS fiscal_year,dc.customer AS customer,
```

```
        fsm.customer_code AS customer_code, dc.market  AS market,
        p.product_code AS product_code, p.product AS product,  p.variant AS variant,
        fsm.sold_quantity AS sold_quantity , fgp.gross_price AS gross_price ,
        ROUND((fsm.sold_quantity * fgp.gross_price), 2) AS Gross_Price_Total,
        fpid.pre_invoice_discount_pct AS pre_invoice_discount_pct
    FROM((((fact_sales_monthly fsm
        JOIN dim_product  p  ON ((fsm.product_code = p.product_code)))
        JOIN dim_customer dc ON ((fsm .customer_code  = dc .customer_code)))
        JOIN fact_gross_price fgp ON ((( fsm . product_code =  fgp .product_code)
        AND ( fgp . fiscal_year =  fsm . fiscal_year))))
        JOIN fact_pre_invoice_deductions   fpid  ON ((( fsm . customer_code  =   fpid.
customer_code)
            AND (fpid . fiscal_year = fsm.fiscal_year))))
```

date	fiscal_year	customer	customer_code	market	product_code	product	variant	sold_quantity	gross_price	Gross_Price_Total
2017-09-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	4	15.3952	61.58
2017-11-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	16	15.3952	246.32
2017-12-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	4	15.3952	61.58
2018-01-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	6	15.3952	92.37
2018-03-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	9	15.3952	138.56
2018-04-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	6	15.3952	92.37
2018-05-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	7	15.3952	107.77
2018-07-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	10	15.3952	153.95
2018-08-01	2018	Amazon	90027207	Brazil	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	6	15.3952	92.37
2017-09-01	2018	Amazon	90023030	Canada	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	4	15.3952	61.58
2017-10-01	2018	Amazon	90023030	Canada	A0118150101	AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	Standard	2	15.3952	30.79

- **Write a stored procedure to get the top n products by net sales for a given year. Use product name without a variant.**

```
CREATE DEFINER=`root`@`localhost` PROCEDURE
`get_top_n_products_by_total_sales`(
    in_fiscal_year INT,in_top_n_product_sales INT
    )
```

```
BEGIN
    SELECT
    dp.product,dp.product_code,ROUND(SUM(Net_Sales)/1000000,2) as
Net_Sales_mlns
    FROM net_sales as ns
    JOIN dim_product as dp
    ON ns.product_code = dp.product_code
    WHERE fiscal_year =in_fiscal_year
    GROUP BY dp.product
    ORDER BY Net_Sales_mlns
    LIMIT in_top_n_product_sales;

END
```

product	product_code	Net_Sales_mlns
AQ MB Crossx 2	A1819150301	0.04
AQ MB Elite	A1618150104	0.14
AQ MB Crossx	A1718150204	0.18
AQ WereWolf NAS Internal Hard Drive HDD – 8....	A0219150202	0.88
AQ Smash 1	A5621110405	1.50
AQ Dracula HDD – 3.5 Inch SATA 6 Gb/s 5400 R...	A0118150104	1.58
AQ Elite	A4419110403	1.92
AQ Gamer 1	A5318110108	2.19
AQ Gamer 2	A5419110208	2.24
AQ Mforce Gen X	A0418150108	2.32

- **Retrieve the top 2 markets in every region by their gross sales amount in FY=2021**

```
WITH cte2 as(select dc.market,region,SUM(ROUND(Gross_Price_Total/1000000,2))
as Gross_Price_Mlns FROM gross_sales as gs
        JOIN dim_customer as dc
        ON gs.customer_code =dc.customer_code
```

```
        WHERE fiscal_year=2021
        GROUP BY market),
 cte3 as(SELECT *,dense_rank() over(partition by region order by Gross_Price_Mlns
DESC) as dnrk from cte2)
 SELECT * FROM cte3 WHERE dnrk<3
```

market	region	Gross_Price_Mlns	dnrk
India	APAC	429.13	1
South Korea	APAC	121.30	2
United Kingdom	EU	32.87	1
France	EU	25.97	2
Brazil	LATAM	0.00	1
Mexico	LATAM	0.00	1
Columbia	LATAM	0.00	1
Chile	LATAM	0.00	1
USA	NA	234.51	1
Canada	NA	45.43	2

- **The supply chain business manager wants to see which customers' forecast accuracy has dropped from 2020 to 2021. Provide a complete report with these columns: customer_code, customer_name, market, forecast_accuracy_2020, forecast_accuracy_2021**

HINT: You can use the query with CTE that was used to generate a forecast accuracy report in the previous chapter first for 2021 and then for 2020. Then you can use these two tables. You can temporarily cache these tables in a temporary table or another CTE and then perform the join between the two.

```
SELECT
	fet2021.customer_code,fet2021.market,fet2021.customer,
	fet2020.abs_net_error_pct as ae20,fet2021.abs_net_error_pct as ae21,
	 fet2021.Total_forecast_Qty
	 FROM Forecast_err_table_2021 as fet2021
	 JOIN Forecast_err_Table_2020 as fet2020
	 ON fet2021.customer_code =fet2020.customer_code
	 where fet2020.abs_net_error_pct > fet2021.abs_net_error_pct
	 order by fet2020.abs_net_error_pct desc;
```

customer_code	market	customer	ae20	ae21	Total_forecast_Qty
90003180	Indonesia	Amazon	167.69	62.53	329424
90022081	USA	Amazon	157.47	65.36	641467
90009132	Newzealand	Amazon	154.74	56.07	115999
70003182	Indonesia	Atliq e Store	149.34	62.68	310630
70022085	USA	Atliq e Store	148.70	65.25	404483
70015152	Norway	Atliq e Store	145.73	55.80	223475
90015150	Norway	Amazon	143.23	56.17	209437
70009134	Newzealand	Atliq e Store	140.97	54.81	110791
90022082	USA	Amazon	139.83	63.65	413788
90022074	USA	Flipkart	131.52	66.74	525718
90022083	USA	Ebay	130.98	62.99	431049
70017060	Portugal	Atliq e Store	118.42	54.90	120744
90017059	Portugal	Amazon	114.40	54.94	114154