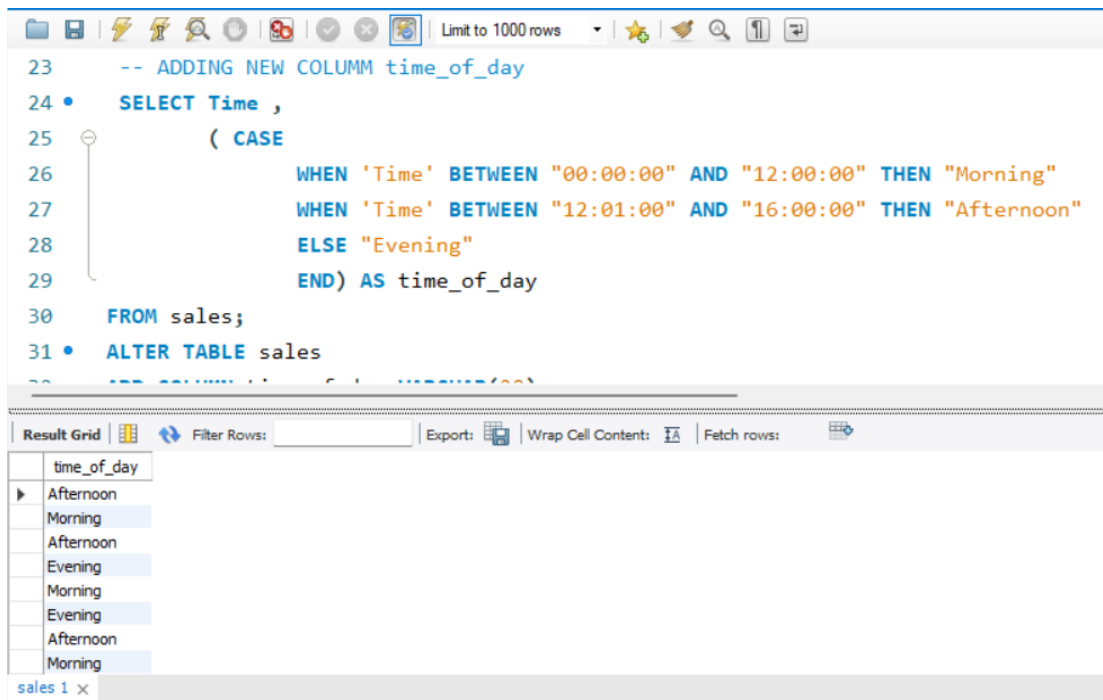## Q:- Adding a new column time_of_day to Database
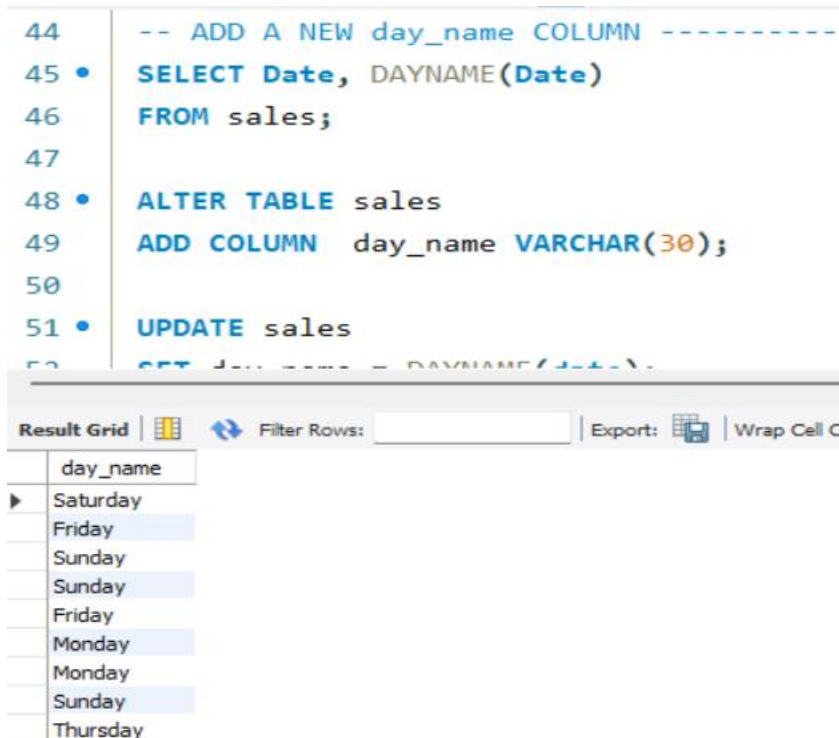
```
23        -- ADDING NEW COLUMM time_of_day
24 •   SELECT Time ,
25           ( CASE
26                  WHEN 'Time' BETWEEN "00:00:00" AND "12:00:00" THEN "Morning"
27                  WHEN 'Time' BETWEEN "12:01:00" AND "16:00:00" THEN "Afternoon"
28                  ELSE "Evening"
29              END) AS time_of_day
30      FROM sales;
31 •   ALTER TABLE sales
```

time_of_day
Afternoon
Morning
Afternoon
Evening
Morning
Evening
Afternoon
Morning

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

sales 1 ×

Q: Adding a new column Day name to Database

```
44       -- ADD A NEW day_name COLUMN ----------
45 •   SELECT Date, DAYNAME(Date)
46     FROM sales;
47
48 •   ALTER TABLE sales
49     ADD COLUMN  day_name VARCHAR(30);
50
51 •   UPDATE sales
```

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

day_name
Saturday
Friday
Sunday
Sunday
Friday
Monday
Monday
Sunday
Thursday

Q:- Adding new column month name to database

```
54        -- ADDING MONTH NAME COLUMN ------------
55  ●     SELECT Date, MONTHNAME(Date)
56        FROM sales;
57
58  ●     ALTER TABLE sales
59        ADD COLUMN month_name VARCHAR(20);
60
61  ●     UPDATE sales
62        SET month_name = MONTHNAME(Date);
63
```

Result Grid | Filter Rows: | Export: | Wrap C

month_name
January
March
March
January
February
March
February

●

GENERIC QUESTION ANSWERS

Q: How many unique cities does the data have ?

```
64
65     -- GENERIC QUESTIONS ANSWERS -----------
66     -- HOW MANY UNIQUE CITIES DOES THE  DATA HAVE --
67 ●   SELECT DISTINCT(City) FROM sales;
68
69     -- IN WHICH CITY IS EACH BRANCH---------
```

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

City
Yangon
Naypyitaw
Mandalay

Q: In which city each branch is

```
69     -- IN WHICH CITY IS EACH BRANCH---------
70 ●   SELECT DISTINCT City, branch
71     FROM sales;
72
```

Result Grid | Filter Rows: | Export: | Wr

City	branch
Yangon	A
Naypyitaw	C
Mandalay	B

ANSWERS ON PRODUCTS

Q:How many unique product lines does the data have ?

There are total 6 unique product lines does the data have

```
73          -- QUESTION ON PRODUCTS-------------------
74          -- 1) HOW MANY UNIQUE PRODUCT LINES DOES THE DATA HAVE?-- 6 ---
75 •        SELECT DISTINCT product_line
76          FROM sales;
77 •        SELECT
78              COUNT(DISTINCT(product_line))
79          FROM sales;
80
```

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

product_line
▶ Health and beauty
Electronic accessories
Home and lifestyle
Sports and travel
Food and beverages
Fashion accessories

Q: What Is the most common payment method?

```
80          -- 2. What is the most common payment method?-- CASH -- ----------
81 •        SELECT SUM(Quantity) as qty, Payment
82          FROM sales
83          GROUP BY Payment
84          ORDER BY qty DESC;
85
```

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

qty	Payment
▸ 1896	Cash
1892	Ewallet
1722	Credit card

Q: What is the most selling product lines?

```
86        -- 3. What is the most selling product line?---
87 •      SELECT SUM(Quantity) AS qty, product_line
88        FROM sales
89        GROUP BY product_line
90        ORDER BY qty DESC;
91
```

Result Grid | Filter Rows: | Export: | Wrap

qty	product_line
971	Electronic accessories
952	Food and beverages
920	Sports and travel
911	Home and lifestyle
902	Fashion accessories
854	Health and beauty

Q: What is the total revenue by month?

```
92        -- 4. What is the total revenue by month? --------------
93 •      SELECT month_name AS month, SUM(Total) AS Total_revenue
94        FROM sales
95        GROUP BY month_name
96        ORDER BY Total_revenue DESC;
97
```

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

month	Total_revenue
January	116291.86800000005
March	109455.50700000004
February	97219.37399999997

Q: What month had the largest cost of gods sold (COGS)?

```
98        -- 5. What month had the largest COGS?-------
99  •    SELECT ROUND(SUM(cogs),2) AS TOTAL, month_name as month
100       FROM sales
101       GROUP BY month_name
102       ORDER BY TOTAL DESC;
103
```

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

TOTAL	month
▶ 110754.16	January
104243.34	March
92589.88	February

March

Q: What product line had the largest revenue?

```
104       -- 6. What product line had the largest revenue?-----------
105  •   SELECT ROUND(SUM(Total),3) AS total_revenue, product_line
106       FROM sales
107       GROUP BY product_line
108       ORDER BY total_revenue DESC;
109
```

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

total_revenue	product_line
▶ 56144.844	Food and beverages
55122.826	Sports and travel
54337.532	Electronic accessories
54305.895	Fashion accessories
53861.913	Home and lifestyle
49193.739	Health and beauty

Q: What is the city with largest revenue?

```
110        -- 5. What is the city with the largest revenue?-------------
111 •      SELECT city, ROUND(SUM(Total),3) as total_revenue
112        FROM sales
113        GROUP BY City
114        ORDER BY total_revenue DESC;
115
```

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

city	total_revenue
Naypyitaw	110568.706
Yangon	106200.371
Mandalay	106197.672

Q: What product line had the largest amount of TAX on purchase (VAT)?

```
116        -- 6. What product line had the largest VAT?--------
117 •      SELECT product_line, ROUND(AVG(VAT),2) AS VAT
118        FROM sales
119        GROUP BY product_line
120        ORDER BY VAT DESC;
121
```

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

product_line	VAT
Home and lifestyle	16.03
Sports and travel	15.81
Health and beauty	15.41
Food and beverages	15.37
Electronic accessories	15.22
Fashion accessories	14.53

Q: Fetch each product line and add a column to those product line showing "Good", "Bad". Good if its greater than average sales?

```
122        -- 7. Fetch each product line and add a column to those -------
123        -- product line showing "Good", "Bad". Good if its greater than average sales------
124  •    SELECT AVG(Quantity) AS AVG_SALES
125        FROM sales;
126  •    SELECT product_line,
127  ⊖            CASE
128                    WHEN  AVG(Quantity) > 5 THEN "Good"
129                ELSE "Bad"
130            END AS result
131        FROM sales
132        GROUP BY product_line;
```

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

product_line	result
Health and beauty	Good
Electronic accessories	Good
Home and lifestyle	Good
Sports and travel	Good
Food and beverages	Good
Fashion accessories	Good

Q: Which branch sold more products than average product sold?

```
134        -- 8. Which branch sold more products than average product sold?------
135  •    SELECT Branch, SUM(Quantity)
136        FROM sales
137        GROUP BY Branch
138        HAVING SUM(Quantity) > (SELECT AVG(Quantity) FROM sales);
139
```

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

Branch	SUM(Quantity)
A	1859
C	1831
B	1820

Q: what is the most common product line by gender?

```
140        -- 9. What is the most common product line by gender?------
141 •      SELECT Gender, product_line,COUNT(Gender) AS CNT
142        FROM sales
143        GROUP BY Gender, product_line
144        ORDER BY Gender DESC;
145
```

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

Gender	product_line	CNT
Male	Electronic accessories	86
Male	Fashion accessories	82
Male	Food and beverages	84
Male	Health and beauty	88
Male	Home and lifestyle	81
Male	Sports and travel	78
Female	Electronic accessories	84
Female	Fashion accessories	96
Female	Food and beverages	90
Female	Health and beauty	64
Female	Home and lifestyle	79
Female	Sports and travel	88

Q: What is the average rating of each product line?

```
146        -- 12. What is the average rating of each product line?---------
147 •      SELECT ROUND(AVG(Rating),1) AS AVG_RT, product_line
148        FROM sales
149        GROUP BY product_line
150        ORDER BY AVG_RT;
151
```

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

AVG_RT	product_line
6.8	Home and lifestyle
6.9	Electronic accessories
6.9	Sports and travel
7	Health and beauty
7	Fashion accessories
7.1	Food and beverages

SALES   ANALYSIS

Q: Number of sales made in each time of the day per weekday

```
155        -- 1. Number of sales made in each time of the day per weekday-------
156 •      SELECT time_of_day,day_name, COUNT(*) AS SALES
157        FROM sales
158        WHERE day_name = "monday"
159        GROUP BY time_of_day, day_name
160        ORDER BY SALES DESC;
161
```

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

time_of_day	day_name	SALES
Evening	Monday	56
Afternoon	Monday	48
Morning	Monday	21

Q: Which of the customer types brings the most revenue?

```
162        -- 2. Which of the customer types brings the most revenue?------------
163 •      SELECT customer_type , ROUND(SUM(Total),2) AS REVENUE
164        FROM sales
165        GROUP BY customer_type
166        ORDER BY REVENUE;
167
```

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

customer_type	REVENUE
Normal	158743.31
Member	164223.44

Q: Which city has the largest tax percent/ VAT (**Value Added Tax**)?

```
168      -- 3. Which city has the largest tax percent/ VAT (**Value Added Tax**)?------
169 •    SELECT ROUND(AVG(VAT),2) AS LTP, City
170      FROM sales
171      GROUP BY City
172      ORDER BY LTP DESC;
173
```

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

customer_type	REVENUE
▶ Normal	158743.31
Member	164223.44

Q: Which customer type pays the most in amount of TAX on purchase (VAT)?

```
174      -- 4. Which customer type pays the most in VAT?----
175 •    SELECT customer_type, ROUND(AVG(VAT),2) AS MST
176      FROM sales
177      GROUP BY customer_type
178      ORDER BY MST DESC;
179
```

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

customer_type	MST
▶ Member	15.61
Normal	15.15

CUSTOMER   ANALYSIS

Q: How many unique customer types does the data have?

```
184        -- 1. How many unique customer types does the data have?---------------
185  ●     SELECT DISTINCT customer_type
186        FROM sales;
187
```

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

customer_type
▶ Member
Normal

Q: How many unique payment methods does the data have?

```
188        -- 2. How many unique payment methods does the data have?----------
189  ●     SELECT DISTINCT Payment
190        FROM sales;
191
```

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

Payment
▶ Ewallet
Cash
Credit card

Q: What is the most common customer type?

```
192      -- 3. What is the most common customer type?----
193 •    SELECT customer_type, COUNT(*) AS CNT
194      FROM sales
195      GROUP BY customer_type
196      ORDER BY CNT DESC;
107
```

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

customer_type	CNT
▶ Member	501
Normal	499

Q: What is the gender of most of the customers?

```
203      -- 5. What is the gender of most of the customers?--
204 •    SELECT Gender, COUNT(*)
205      FROM sales
206      GROUP BY Gender;
207
```

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

Gender	COUNT(*)
▶ Female	501
Male	499

Q: Which customer type buys the most?

```
198      -- 4. Which customer type buys the most?------
199 •    SELECT customer_type , COUNT(*)
200      FROM sales
201      GROUP BY customer_type;
202
```

Result Grid | Filter Rows: | Export: | Wrap (

customer_type	COUNT(*)
▶ Member	501
Normal	499

Q: What is the gender distribution per branch?

```
208    -- 6. What is the gender distribution per branch?----------------
209 •  SELECT Branch,Gender,
210            COUNT(*) AS gender_count,
211            COUNT(*) / SUM(COUNT(*)) OVER (PARTITION BY Branch) AS gender_percentage
212    FROM sales
213    GROUP BY Branch, Gender;
214
```

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

Branch	Gender	gender_count	gender_percentage
A	Female	161	0.4735
A	Male	179	0.5265
B	Female	162	0.4880
B	Male	170	0.5120
C	Female	178	0.5427
C	Male	150	0.4573

Q: Which time of the day do customers give the more ratings?

```
215    -- 7. Which time of the day do customers give most ratings?----------
216 •  SELECT time_of_day, ROUND(AVG(Rating),2) AS most_ratings
217    FROM sales
218    GROUP BY time_of_day
219    ORDER BY most_ratings DESC;
220
```

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

time_of_day	most_ratings
Afternoon	7.03
Morning	6.96
Evening	6.93

Q: Which time of the day do customers give the most rating per Brach?

```
221        -- 8. Which time of the day do customers give most ratings per branch?-------
222 ●    SELECT time_of_day, Branch,ROUND(AVG(Rating),2) AS most_ratings
223        FROM sales
224        GROUP BY time_of_day,Branch
225        ORDER BY most_ratings DESC;
226
```

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

time_of_day	Branch	most_ratings
Afternoon	A	7.19
Evening	C	7.12
Afternoon	C	7.07
Morning	A	7.01
Morning	C	6.97
Evening	A	6.89
Morning	B	6.89
Afternoon	B	6.84
Evening	B	6.77

Q: Which day of the week has the best average rating?

```
227        -- 9. Which day of the week has the best avg ratings?---------
228 ●    SELECT day_name, ROUND(AVG(Rating),2) AS AVRG
229        FROM sales
230        GROUP BY day_name
231        ORDER BY AVRG DESC;
232
```

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

day_name	AVRG
Monday	7.15
Friday	7.08
Sunday	7.01
Tuesday	7
Saturday	6.9
Thursday	6.89
Wednesday	6.81

Q: Which day of week has the best average rating per branch?