

Challenge 1 - Steve's Car Showroom



Intro

Steve runs a top-end car showroom but his data analyst has just quit and left him without his crucial insights.

Can you analyse the following data to provide him with all the answers he requires?

Tables :

sales

sale_id	car_id	salesman_id	purchase_date
1	1	1	2021-01-01
2	3	3	2021-02-03
3	2	2	2021-02-10
4	5	4	2021-03-01
5	8	1	2021-04-02
6	2	1	2021-05-05
7	4	2	2021-06-07
8	5	3	2021-07-09
9	2	4	2022-01-01
10	1	3	2022-02-03
11	8	2	2022-02-1-
12	7	2	2022-03-01
13	5	3	2022-04-02
14	3	1	2022-05-05
15	5	4	2022-06-07
16	1	2	2022-07-09
17	2	3	2023-01-01
18	6	3	2023-02-03
19	7	1	2023-02-10
20	4	4	2023-03-01

cars

car_id	make	type	style	cost_\$
1	Honda	Civic	Sedan	30000
2	Toyota	Corolla	Hatchback	25000
3	Ford	Explorer	SUV	40000
4	Chevrolet	Camaro	Coupe	36000
5	BMW	X5	SUV	55000
6	Audi	A4	Sedan	48000
7	Mercedes	C-Class	Coupe	60000
8	Nissan	Altima	Sedan	26000

salespersons

salesman_id	name	age	city
1	John Smith	28	New York
2	Emily Wong	35	San Fran
3	Tom Lee	42	Seattle
4	Lucy Chen	31	LA

Questions

1. What are the details of all cars purchased in the year 2022?

```
71
72 #Q1. What are the details of all cars purchased in the year 2022?
73 • SELECT cars.car_id,cars.make,cars.type,cars.style,cars.cost_$,Year(sales.purchase_date) AS Purchase_year FROM cars
74 INNER JOIN sales
75 ON cars.car_id = sales.car_id
76 WHERE YEAR(purchase_date) = '2022';
77
78
79
```

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

	car_id	make	type	style	cost_\$	Purchase_year
▶	1	Honda	Civic	Sedan	30000	2022
	1	Honda	Civic	Sedan	30000	2022
	2	Toyota	Corolla	Hatchback	25000	2022
	3	Ford	Explorer	SUV	40000	2022
	5	BMW	X5	SUV	55000	2022
	5	BMW	X5	SUV	55000	2022
	7	Mercedes	C-Class	Coupe	60000	2022
	8	Nissan	Altima	Sedan	26000	2022

Result 20 x | Read Only

2. What is the total number of cars sold by each salesperson?

```
79 #Q2. What is the total number of cars sold by each salesperson?
80 • SELECT salespersons.name AS Salesman, COUNT(sales.salesman_id) AS Cars_sold
81 FROM salespersons
82 INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
83 GROUP BY salespersons.name
84 ORDER BY Cars_sold DESC;
85
```

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Don't Limit | | | | |

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

	Salesman	Cars_sold
▶	Tom Lee	6
	John Smith	5
	Emily Wong	5
	Lucy Chen	4

Result 4 x | Read Only

3. What is the total revenue generated by each salesperson?

The screenshot shows a SQL IDE window with a query editor and a result grid. The query is as follows:

```
87 #3. What is the total revenue generated by each salesperson?
88 • SELECT salespersons.name, SUM(cars.cost_$) AS Revenue
89 FROM salespersons
90 INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
91 INNER JOIN cars ON sales.car_id = cars.car_id
92 GROUP BY salespersons.name
93 ORDER BY Revenue;
```

The result grid displays the following data:

name	Revenue
Lucy Chen	171000
Emily Wong	177000
John Smith	181000
Tom Lee	253000

4. What are the details of the cars sold by each salesperson?

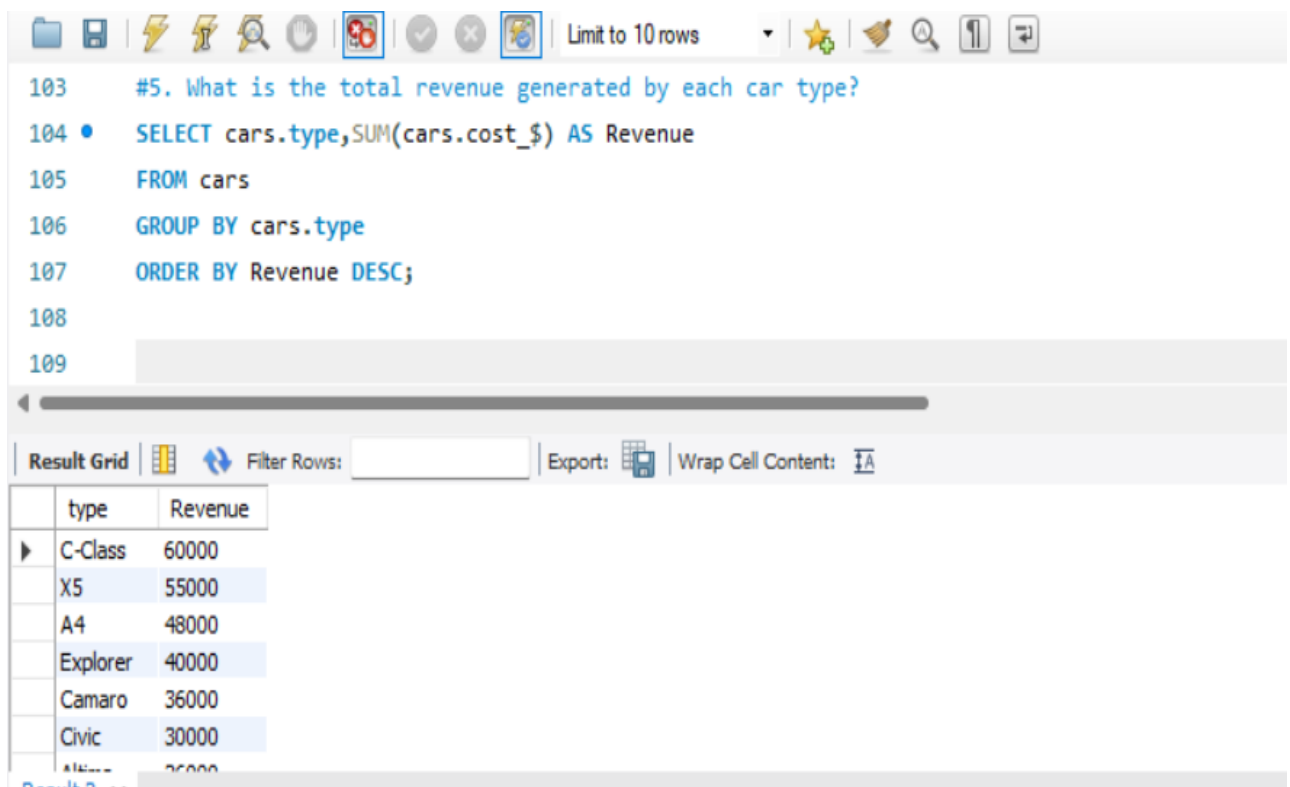
The screenshot shows a SQL IDE window with a query editor and a result grid. The query is as follows:

```
96 #4. What are the details of the cars sold by each salesperson?
97 • SELECT salespersons.name AS Salesman, cars.car_id, cars.make, cars.type, cars.style, cars.cost_$
98 FROM cars INNER JOIN sales ON cars.car_id = sales.car_id
99 INNER JOIN salespersons ON sales.salesman_id = salespersons.salesman_id
100 GROUP BY cars.car_id;
101
102
```

The result grid displays the following data:

Salesman	car_id	make	type	style	cost_\$
John Smith	1	Honda	Civic	Sedan	30000
John Smith	8	Nissan	Altima	Sedan	26000
John Smith	2	Toyota	Corolla	Hatchback	25000
John Smith	3	Ford	Explorer	SUV	40000
John Smith	7	Mercedes	C-Class	Coupe	60000
Emily Wong	4	Chevrolet	Camaro	Coupe	36000
Tom Lee	5	BMW	X5	SUV	55000

5. What is the total revenue generated by each car type?



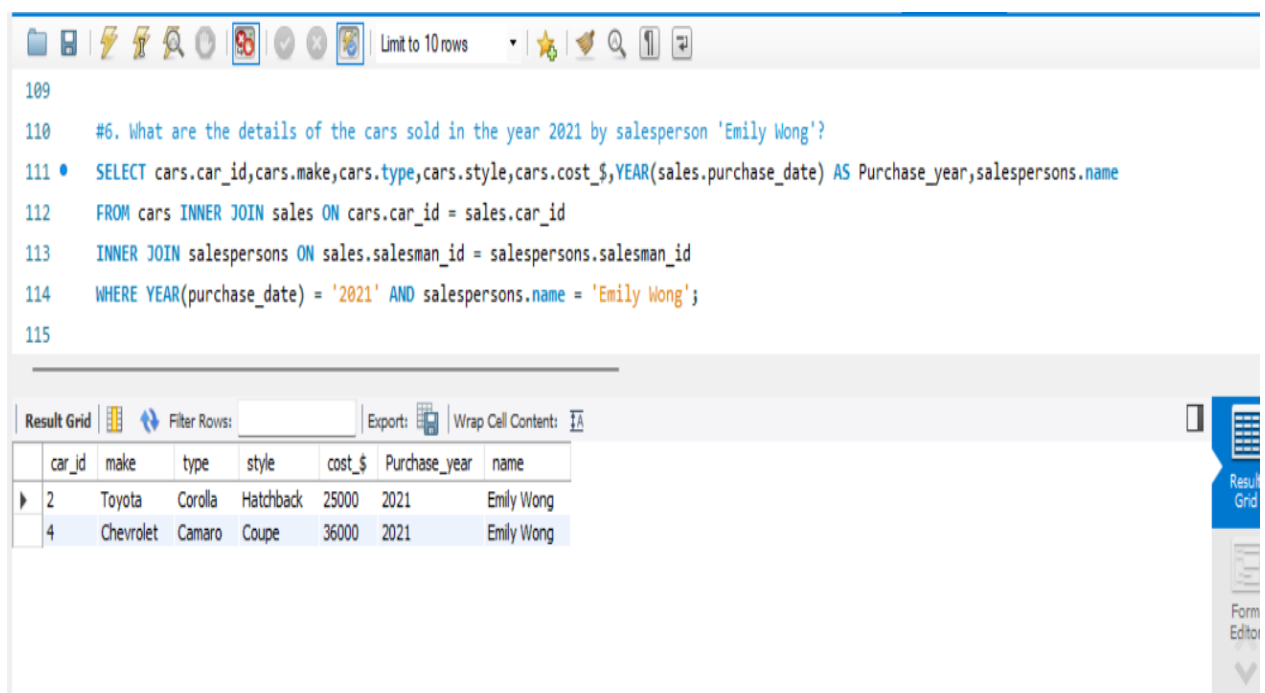
The screenshot shows a SQL IDE interface. The query editor contains the following SQL code:

```
103 #5. What is the total revenue generated by each car type?
104 • SELECT cars.type,SUM(cars.cost_$) AS Revenue
105 FROM cars
106 GROUP BY cars.type
107 ORDER BY Revenue DESC;
108
109
```

Below the query editor, the 'Result Grid' tab is active, displaying the results of the query in a table:

type	Revenue
C-Class	60000
X5	55000
A4	48000
Explorer	40000
Camaro	36000
Civic	30000
Altima	28000

6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?



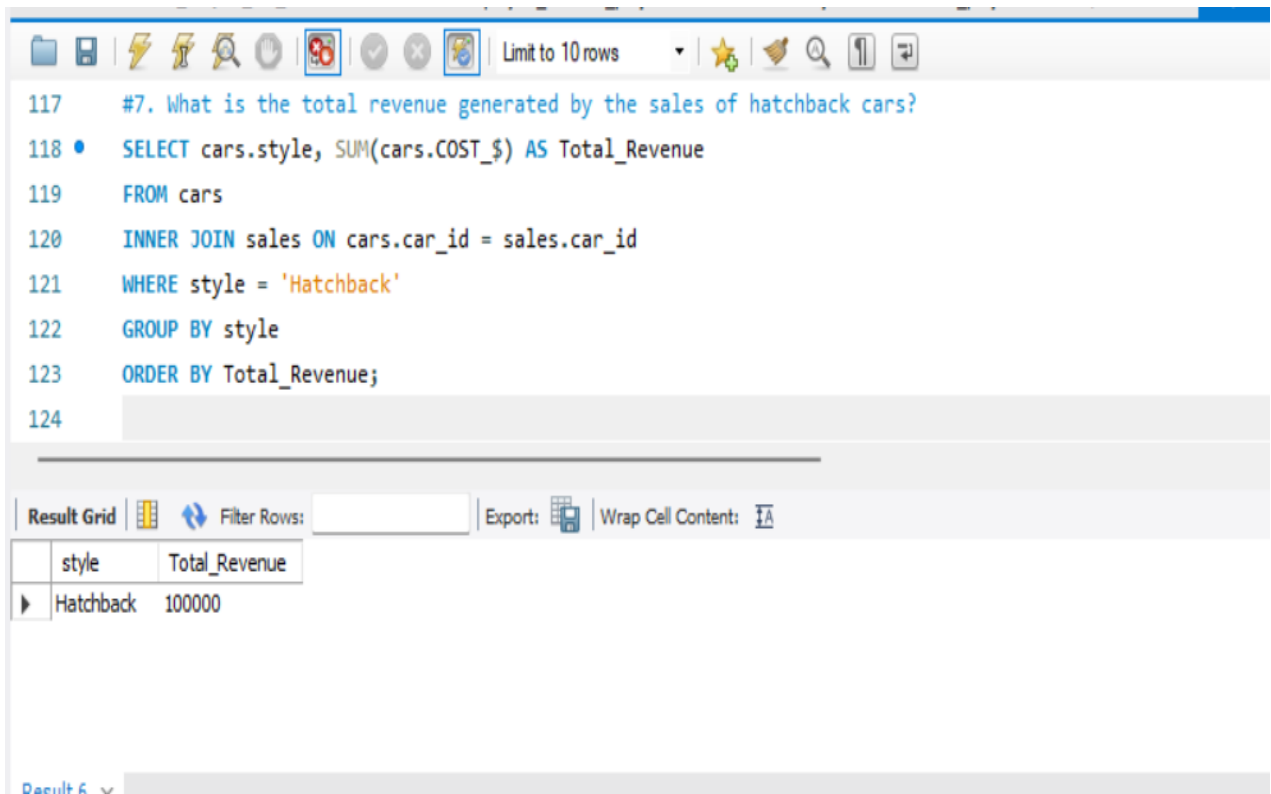
The screenshot shows a SQL IDE interface. The query editor contains the following SQL code:

```
109
110 #6. What are the details of the cars sold in the year 2021 by salesperson 'Emily Wong'?
111 • SELECT cars.car_id,cars.make,cars.type,cars.style,cars.cost_$,YEAR(sales.purchase_date) AS Purchase_year,salespersons.name
112 FROM cars INNER JOIN sales ON cars.car_id = sales.car_id
113 INNER JOIN salespersons ON sales.salesman_id = salespersons.salesman_id
114 WHERE YEAR(purchase_date) = '2021' AND salespersons.name = 'Emily Wong';
115
```

Below the query editor, the 'Result Grid' tab is active, displaying the results of the query in a table:

car_id	make	type	style	cost_\$	Purchase_year	name
2	Toyota	Corolla	Hatchback	25000	2021	Emily Wong
4	Chevrolet	Camaro	Coupe	36000	2021	Emily Wong

7. What is the total revenue generated by the sales of hatchback cars?



The screenshot shows a SQL query editor with a toolbar at the top. The query is as follows:

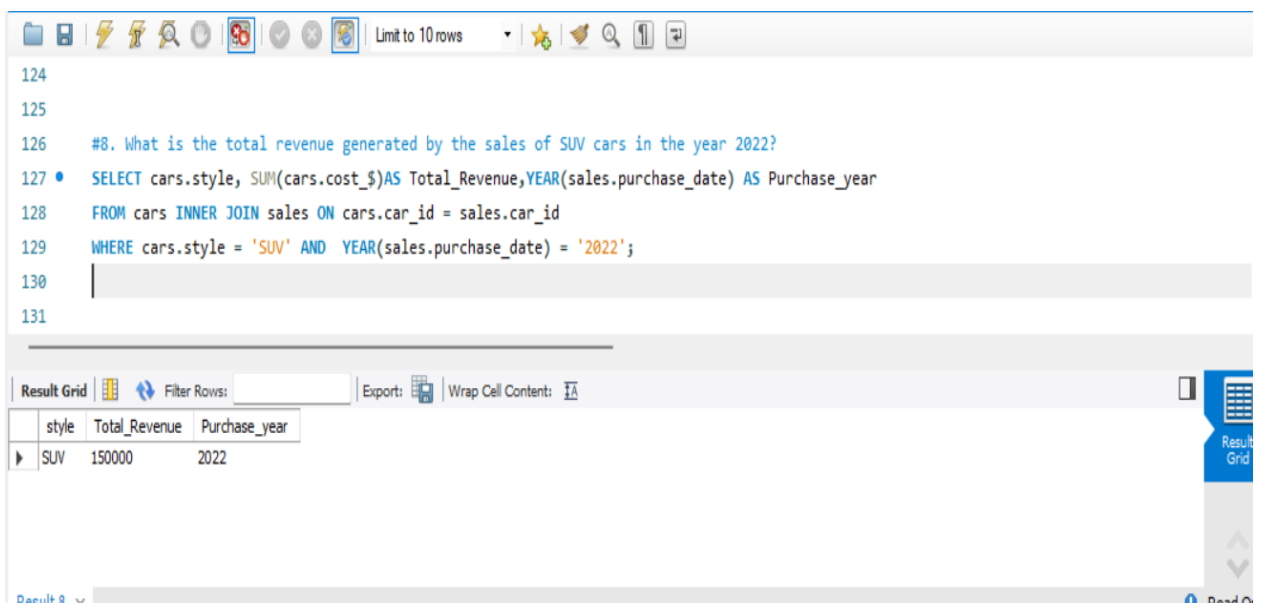
```
117 #7. What is the total revenue generated by the sales of hatchback cars?
118 • SELECT cars.style, SUM(cars.COST_$) AS Total_Revenue
119 FROM cars
120 INNER JOIN sales ON cars.car_id = sales.car_id
121 WHERE style = 'Hatchback'
122 GROUP BY style
123 ORDER BY Total_Revenue;
124
```

Below the query editor is a toolbar with options like "Result Grid", "Filter Rows", "Export", and "Wrap Cell Content". The result grid shows the following data:

style	Total_Revenue
Hatchback	100000

The status bar at the bottom indicates "Result 6".

8. What is the total revenue generated by the sales of SUV cars in the year 2022?



The screenshot shows a SQL query editor with a toolbar at the top. The query is as follows:

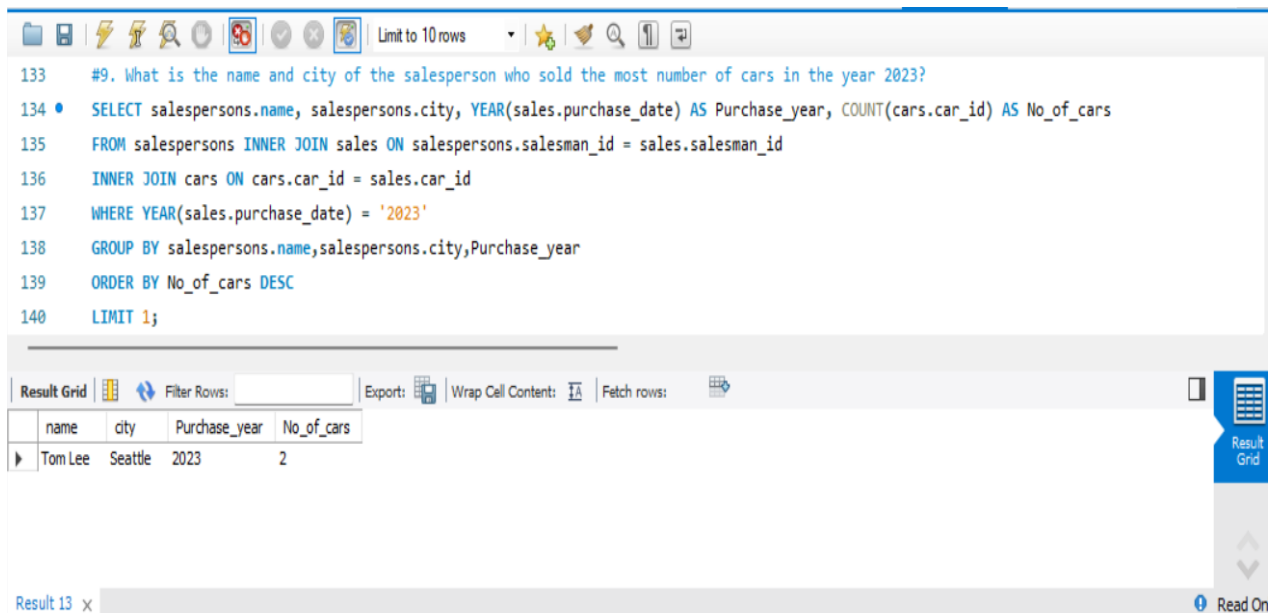
```
124
125
126 #8. What is the total revenue generated by the sales of SUV cars in the year 2022?
127 • SELECT cars.style, SUM(cars.cost_$)AS Total_Revenue, YEAR(sales.purchase_date) AS Purchase_year
128 FROM cars INNER JOIN sales ON cars.car_id = sales.car_id
129 WHERE cars.style = 'SUV' AND YEAR(sales.purchase_date) = '2022';
130
131
```

Below the query editor is a toolbar with options like "Result Grid", "Filter Rows", "Export", and "Wrap Cell Content". The result grid shows the following data:

style	Total_Revenue	Purchase_year
SUV	150000	2022

The status bar at the bottom indicates "Result 8".

9. What is the name and city of the salesperson who sold the most number of cars in the year 2023?

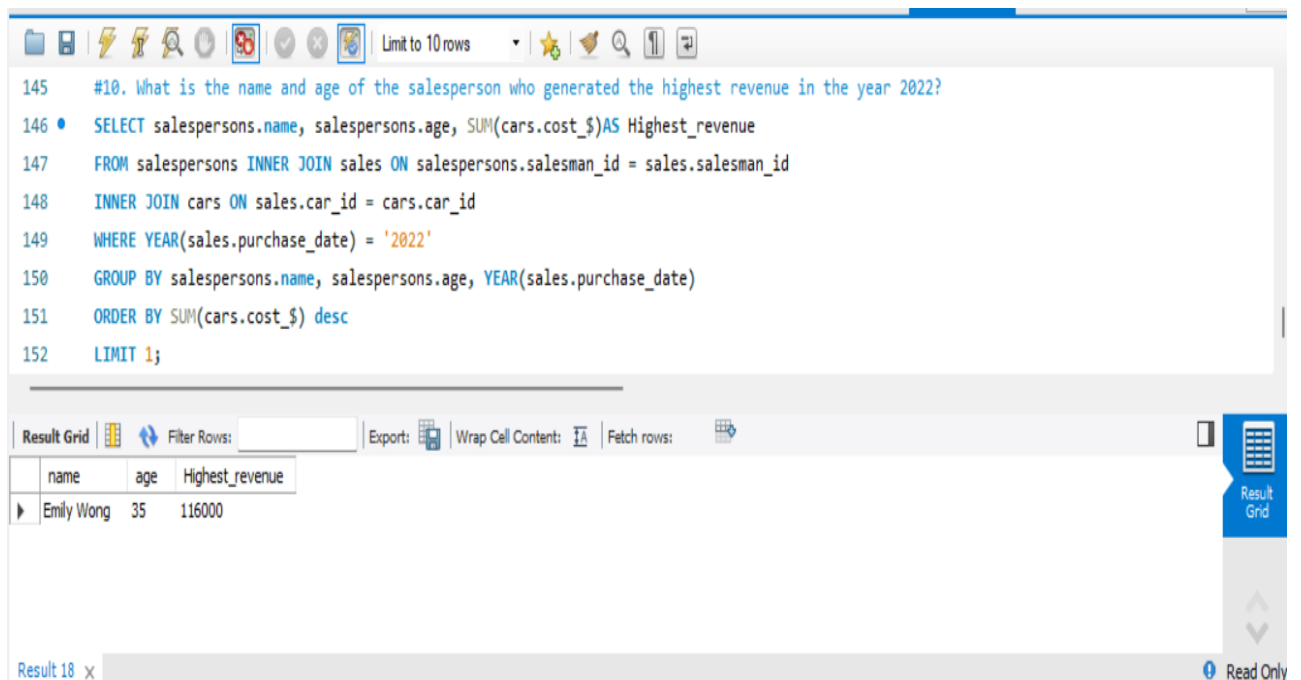


```
133 #9. What is the name and city of the salesperson who sold the most number of cars in the year 2023?
134 • SELECT salespersons.name, salespersons.city, YEAR(sales.purchase_date) AS Purchase_year, COUNT(cars.car_id) AS No_of_cars
135 FROM salespersons INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
136 INNER JOIN cars ON cars.car_id = sales.car_id
137 WHERE YEAR(sales.purchase_date) = '2023'
138 GROUP BY salespersons.name, salespersons.city, Purchase_year
139 ORDER BY No_of_cars DESC
140 LIMIT 1;
```

name	city	Purchase_year	No_of_cars
Tom Lee	Seattle	2023	2

Result 13 x Read On

10. What is the name and age of the salesperson who generated the highest revenue in the year 2022?



```
145 #10. What is the name and age of the salesperson who generated the highest revenue in the year 2022?
146 • SELECT salespersons.name, salespersons.age, SUM(cars.cost_$) AS Highest_revenue
147 FROM salespersons INNER JOIN sales ON salespersons.salesman_id = sales.salesman_id
148 INNER JOIN cars ON sales.car_id = cars.car_id
149 WHERE YEAR(sales.purchase_date) = '2022'
150 GROUP BY salespersons.name, salespersons.age, YEAR(sales.purchase_date)
151 ORDER BY SUM(cars.cost_$) desc
152 LIMIT 1;
```

name	age	Highest_revenue
Emily Wong	35	116000

Result 18 x Read Only