

TERPBUY Data Science- PROJECT

University of Maryland

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Question 1 : How many rows of data are stored for each table in the database? List the name of each table followed by the number of rows it has.

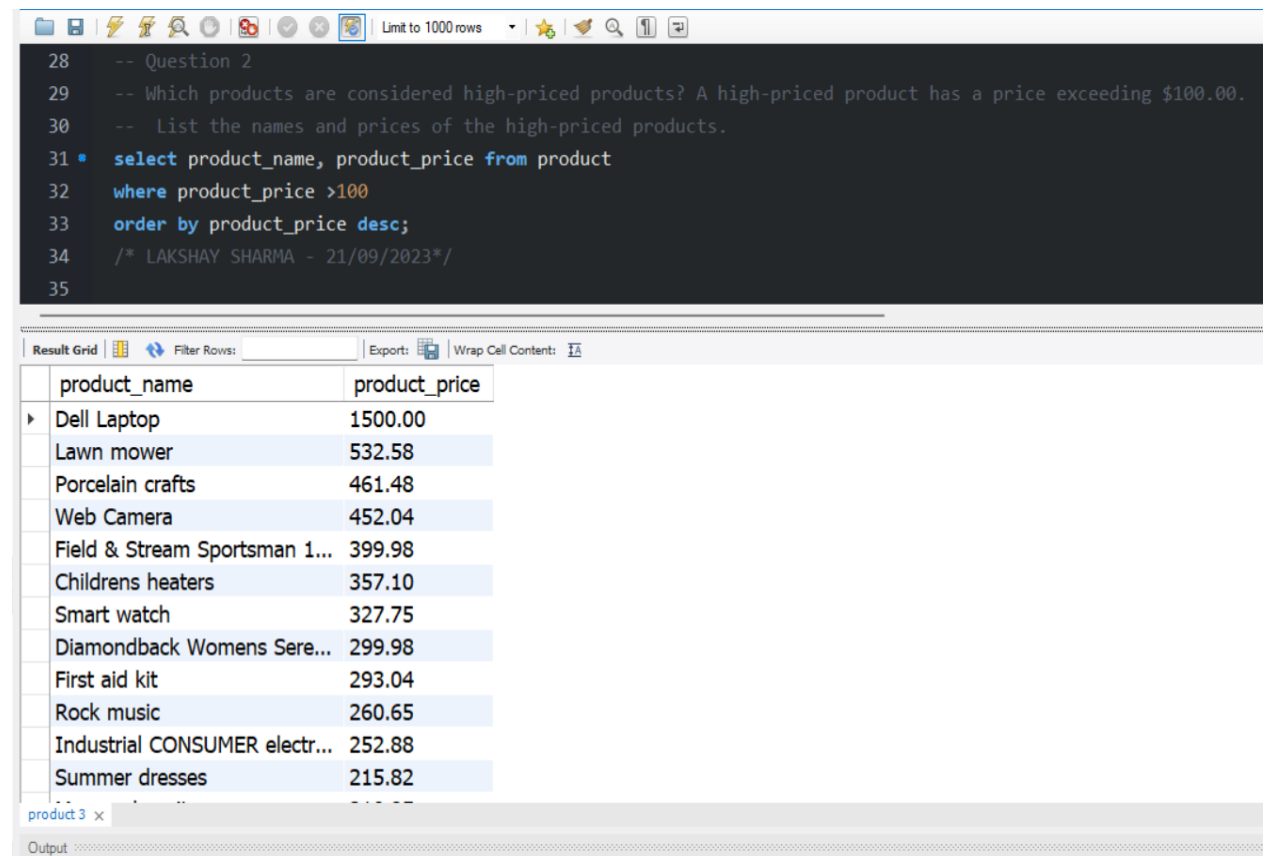
```
13 -- How many rows of data are stored for each table in the database? List the name of each
14 -- table followed by the number of rows it has.
15 • select 'category',count(*)as total_rows from category
16 union
17 select 'customer',count(*) from customer
18 union
19 select 'department',count(*) from department
20 union
21 select 'order_line',count(*) from order_line
22 union
23 select 'orders',count(*) from orders
24 union
25 select 'product',count(*) from product;
26 /* LAKSHAY SHARMA - 21/09/2023*/
```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
category	total_rows			
category	51			
customer	4461			
department	12			
order_line	4783			
orders	2152			
product	72			

Result 1 x

Output

Question 2: Which products are considered high-priced products? A high-priced product has a price exceeding \$100.00. List the names and prices of the high-priced products.



The screenshot shows a SQL IDE interface. The top toolbar includes icons for file operations, search, and execution, along with a 'Limit to 1000 rows' dropdown. The SQL editor contains the following code:

```
28 -- Question 2
29 -- Which products are considered high-priced products? A high-priced product has a price exceeding $100.00.
30 -- List the names and prices of the high-priced products.
31 * select product_name, product_price from product
32 where product_price >100
33 order by product_price desc;
34 /* LAKSHAY SHARMA - 21/09/2023*/
35
```

Below the editor is the 'Result Grid' section, which displays the query results in a table. The table has two columns: 'product_name' and 'product_price'. The results are sorted in descending order of price. The first row is expanded, showing a dropdown arrow next to 'Dell Laptop'.

product_name	product_price
▶ Dell Laptop	1500.00
Lawn mower	532.58
Porcelain crafts	461.48
Web Camera	452.04
Field & Stream Sportsman 1...	399.98
Childrens heaters	357.10
Smart watch	327.75
Diamondback Womens Sere...	299.98
First aid kit	293.04
Rock music	260.65
Industrial CONSUMER electr...	252.88
Summer dresses	215.82

At the bottom of the interface, there is a tab labeled 'product 3' and an 'Output' section.

Question 3: List all orders placed by customers in the state of Florida. Note: The state abbreviation for Florida is 'FL'. Include the customers' first names, last names, city, and segment, along with the order ID and order date.

```
36 -- QuesTion 3
37 -- List all orders placed by customers in the state of Florida. Note: The state abbreviation for Florida is 'FL'.
38 -- Include the customers' first names, last names, city, and segment, along with the order ID and order date.
39
40 • select customer.first_name , customer.last_name, customer.city, customer.segment ,
41       orders.order_id, orders.order_date from customer
42 left join orders
43 on customer.customer_id=orders.customer_id
44 where orders.order_id is not null
45 and customer.state='FL';
46 /* LAKSHAY SHARMA :- 21/09/2023 */
47
```

first_name	last_name	city	segment	order_id	order_date
Laura	Smith	Winter Park	CORPORATE	20366	2018-10-24
Linda	Murray	Pompano Beach	CORPORATE	20428	2018-10-25
Mary	Smith	Tallahassee	CORPORATE	20492	2018-10-26
Mary	Morrison	Brandon	HOME_OFFICE	20745	2018-10-29
Jose	Smith	Miami	CORPORATE	20877	2018-10-31
Patricia	Smith	Fort Lauderdale	CORPORATE	21239	2018-11-06
Mary	Harris	Miami	CORPORATE	21278	2018-11-06
Mary	Weaver	Miami	CONSUMER	22082	2018-11-18

Result 7 ×

Output

Question 4 : List all products that fall in one of the following categories: 'Computers', 'Toys', 'Tennis & Racquet'. Include the products' names, category, department, and price.

```
47
48 -- Question 4
49 -- List all products that fall in one of the following categories: 'Computers', 'Toys', 'Tennis & Racquet'.
50 -- Include the products' names, category, department, and price.
51
52 • select product.product_name, category.category_name, department.department_name, product.product_price
53 from product
54 left join category
55 on product.category_id= category.category_id
56 left join department
57 on product.department_id = department.department_id
58 where category.category_name in('computers','toys','tennis & racquet');
59 /* LAKSHAY SHARMA :- 21/09/2023*/
60
```

product_name	category_name	department_name	product_price
Nike Mens Comfort 2 Slide	Tennis & Racq...	Fitness	44.99
Dell Laptop	Computers	Technology	1500.00
Toys	Toys	Fan Shop	11.54

Result 11 x

Question 5 : TerpBuy is considering reducing its product offerings. Which products have not yet been sold? Include the name, category, and department for each such product

```
62 -- Question 5
63 -- TerpBuy is considering reducing its product offerings. Which products have not yet been sold?
64 -- Include the name, category, and department for each such product
65
66 • select product.product_name ,department.department_name, category.category_name from product
67 left join order_line
68 on order_line.product_id= product.product_id
69 left join category
70 on product.category_id= category.category_id
71 left join department
72 on product.department_id = department.department_id
73 where order_line.quantity_sold=0;
74 /* LAKSHAY SHARMA ; 21/09/2023*/
75
```

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

	product_name	department_name	category_name
--	--------------	-----------------	---------------

Result 22 x

Output

Question 6 : List the names of all cities from where orders are shipped. Also, for such cities, find the number of orders for which shipping was delayed. Sort the list of cities in order from the highest to the least number of shipping orders.

```
77 -- Question 6
78 -- List the names of all cities from where orders are shipped. Also, for such cities, find the number of orders
79 -- for which shipping was delayed. Sort the list of cities in order from the highest to the least number of shipping orders.
80 • select distinct order_city ,count(order_id) as "Delayed"
81   from orders
82  where actual_shipping_days>scheduled_shipping_days
83  group by order_city
84  order by count(order_id) desc;
85 /* LAKSHAY SHARMA : 21/09/2023*/
86
```

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

order_city	Delayed
Bangalore	51
Mumbai	45
Pune	41
Delhi	37
Chennai	32
Surat	31
Visakhapatnam	30
Hyderabad	29
Gorakhpur	27
Ajmer	26
...	...

Result 10 x

Question 7: How many customers are there in each segment? Show the most popular segment at the top of the result. Incorporate a column alias in the result.

```
88
89 -- Question 7
90 -- How many customers are there in each segment? Show the most popular segment at the top of the result.
91 -- Incorporate a column alias in the result.
92
93 • SELECT segment, count(customer_id) as Total_Customers FROM customer
94 GROUP BY segment
95 ORDER BY Total_Customers DESC
96 /* LAKSHAY SHARMA : 21/09/2023 */
97
```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
segment	Total_Customers		
CONSUMER	2312		
CORPORATE	1312		
HOME_OFFICE	837		

Result 12 x

Output

Question 8: How many orders were placed in the first quarter of 2021? Note: A quarter consists of three months. Incorporate a column alias in the result. You can refer to the documentation on date functions provided [here](#).

```
98 -- Question 8
99 -- How many orders were placed in the first quarter of 2021? Note: A quarter consists of three months.
100 -- Incorporate a column alias in the result. You can refer to the documentation on date functions provided here.
101 • select count(order_id) as result from orders
102 where order_date between '2021-01-01' and '2021-03-31';
103 /* LAKSHAY SHARMA : 21/09/2023 */
104
```

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

	result
▶	362

Result 17 x

Output

Question 9: List in alphabetical order all states supporting multiple customer segments.

```
104
105 -- Question 9
106 -- List in alphabetical order all states supporting multiple customer segments.
107 • select state, COUNT(DISTINCT segment) as Segment_by_number from customer
108 group by state
109 HAVING COUNT(*) > 1
110 ORDER BY state;
111 /* LAKSHAY SHARMA : 21/09/2023 */
112
```

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





	state	Segment_by_number
▶	AR	2
	AZ	3
	CA	3
	CO	3
	CT	3
	DC	3
	DE	3
	FL	3
	GA	3
	HI	3

Result 19 x

Output

Question 10 : To help the commercial sales department with its marketing, find all customers in the corporate segment who have not placed any orders. Include each customers' first name, last name, street, city, state, and zip code. Sort the results by the last name first and then by the first name.

```
112
113
114 -- Question 10
115 -- To help the commercial sales department with its marketing, find all customers in the corporate segment who have
116 -- not placed any orders. Include each customers' first name, last name, street, city, state, and zip code.
117 -- Sort the results by the last name first and then by the first name.
118 • select customer.first_name, customer.last_name, customer.street, customer.city, customer.state, customer.zipcode
119 from customer
120 inner join orders
121 on customer.customer_id=orders.customer_id
122 where customer.segment ='corporate'
123 and orders.order_id=null
124 order by customer.last_name , customer.first_name;
125 /* LAKSHAY SHARMA 21/09/2023*/
```

Result Grid   Filter Rows: Export:  Wrap Cell Content: 

first name	last name	street	city	state	zipcode
------------	-----------	--------	------	-------	---------

Result 31 x

Output

Question 11 : There has been a recall of the product Nike Mens Free 5.0+ Running Shoe.

TerpBuy would have to offer a discount coupon to all customers who purchased this product.

Find all orders that included this product as a part of the purchase. For all such orders, list the customers' first names, last names, street, state, zip code, and order date. Each customer can be offered only one discount coupon. Hence, do not list the same customer more than once.

```
140 -- Question 11
141 -- There has been a recall of the product Nike Mens Free 5.0+ Running Shoe. TerpBuy would have to offer
142 -- a discount coupon to all customers who purchased this product. Find all orders that included this product as a
143 -- part of the purchase. For all such orders, list the customers' first names, last names, street, state, zip code
144 -- and order date. Each customer can be offered only one discount coupon. Hence, do not list the same customer more than once.
145 • SELECT DISTINCT customer.first_name, customer.last_name, customer.street, customer.state, customer.zipcode,
146    orders.order_date, product.product_name FROM product
147    INNER JOIN order_line
148    ON order_line.product_id = product.product_id
149    INNER JOIN orders
150    ON orders.order_id = order_line.order_id
151    INNER JOIN customer
152    ON customer.customer_id = orders.customer_id
153    WHERE product.product_name = 'Nike Mens Free 5.0+ Running Shoe'
154    ORDER BY first_name;
155 /* LAKSHAY SHARMA 21/09/2023*/
```

first_name	last_name	street	state	zipcode	order_date	product_name
Alan	Hubbard	5002 Cinder Ridge	PR	00725	2019-03-16	Nike Mens Free 5.0+ Runni...
Albert	Contreras	6943 Round Elk Freeway	GA	30022	2018-12-02	Nike Mens Free 5.0+ Runni...
Amanda	Hogan	3654 Foggy Byway	PR	00725	2018-11-22	Nike Mens Free 5.0+ Runni...
Amanda	Lopez	5214 Colonial Square	PR	00725	2019-02-12	Nike Mens Free 5.0+ Runni...

Result 33 x

Output

Question 12 : Premium customers are those customers who have placed orders with order amounts greater than the average order amount. For each customer, find the first and last names, and the order amount for all orders that exceeded the average order amount.

```
158 -- Question 12
159 -- Premium customers are those customers who have placed orders with order amounts greater than the
160 -- average order amount. For each customer, find the first and last names, and the order amount for all orders
161 -- that exceeded the average order amount.
162
163 • SELECT customer.first_name, customer.last_name, sum(order_line.total_price) as Order_Amount
164 FROM customer
165 INNER JOIN orders
166     ON orders.customer_id = customer.customer_id
167 INNER JOIN order_line
168     ON order_line.order_id = orders.order_id
169 GROUP BY customer.first_name, customer.last_name
170 HAVING Order_Amount > (select AVG(total_price) as avg from order_line)
171 ORDER BY Order_Amount
172 /* LAKSHAY SHARMA : 21/09/2023 */
173
```

first_name	last_name	Order_Amount
Jeffrey	Whitney	207.96
Stephanie	Morris	209.93
Hannah	Jennings	210.85
Nichole	Holloway	210.85