

DATA ANALYSIS SCENARIOS

1. Customer Demographics Analysis

Objective: To understand the distribution of customer demographics based on age and gender. This will help in identifying key customer segments for marketing campaigns and tailor insurance offerings accordingly.

```
SELECT gender,
       CASE
         WHEN age BETWEEN 25 AND 30 THEN '25-30'
         WHEN age BETWEEN 31 AND 35 THEN '31-35'
         WHEN age BETWEEN 36 AND 40 THEN '36-40'
         ELSE '40+'
       END AS age_group, count(*) as Total_Count
FROM Project_Insurance_Customer
GROUP BY gender,
       CASE
         WHEN age BETWEEN 25 AND 30 THEN '25-30'
         WHEN age BETWEEN 31 AND 35 THEN '31-35'
         WHEN age BETWEEN 36 AND 40 THEN '36-40'
         ELSE '40+'
       END
order by gender, CASE
       WHEN age BETWEEN 25 AND 30 THEN '25-30'
       WHEN age BETWEEN 31 AND 35 THEN '31-35'
       WHEN age BETWEEN 36 AND 40 THEN '36-40'
       ELSE '40+'
     END ;
```

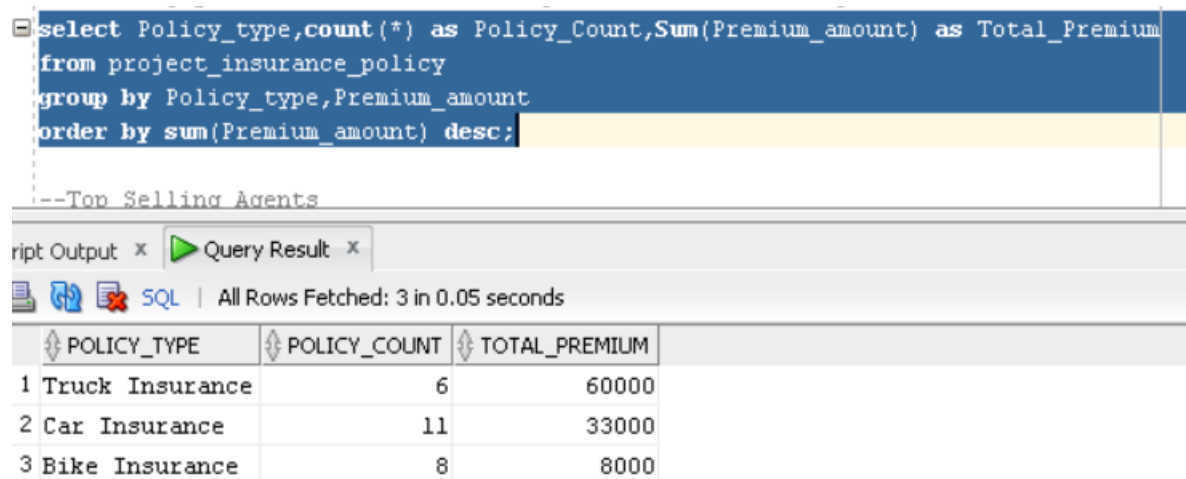
<pre> SELECT gender, CASE WHEN age BETWEEN 25 AND 30 THEN '25-30' WHEN age BETWEEN 31 AND 35 THEN '31-35' WHEN age BETWEEN 36 AND 40 THEN '36-40' ELSE '40+' END AS age_group, count(*) as Total_Count FROM Project_Insurance_Customer GROUP BY gender, CASE WHEN age BETWEEN 25 AND 30 THEN '25-30' WHEN age BETWEEN 31 AND 35 THEN '31-35' WHEN age BETWEEN 36 AND 40 THEN '36-40' ELSE '40+' END order by gender, CASE WHEN age BETWEEN 25 AND 30 THEN '25-30' WHEN age BETWEEN 31 AND 35 THEN '31-35' WHEN age BETWEEN 36 AND 40 THEN '36-40' ELSE '40+' END ; </pre>			
<div> <div>Query Result x</div> <div> </div> </div>			
	GENDER	AGE_GROUP	TOTAL_COUNT
1	F	25-30	6
2	F	31-35	6
3	F	36-40	1
4	M	25-30	6
5	M	31-35	1
6	M	36-40	3
7	M	40+	2

Analysis:

- Categorize customers into age groups to identify the most common age brackets across different genders.
- Useful for targeted marketing and designing personalized insurance policies.

2. Top Selling Insurance Policy Types

Objective: Identify which types of insurance policies (Car, Bike, Truck) are the most popular and generate the highest premiums. This will help in decision-making about resource allocation, marketing focus, and strategic planning.



The screenshot shows a SQL query editor with the following query:

```
--Top Selling Agents
select Policy_type,count(*) as Policy_Count,Sum(Premium_amount) as Total_Premium
from project_insurance_policy
group by Policy_type,Premium_amount
order by sum(Premium_amount) desc;
```

Below the query editor, the results are displayed in a table with the following columns: POLICY_TYPE, POLICY_COUNT, and TOTAL_PREMIUM. The results are ordered by total premium in descending order.

	POLICY_TYPE	POLICY_COUNT	TOTAL_PREMIUM
1	Truck Insurance	6	60000
2	Car Insurance	11	33000
3	Bike Insurance	8	8000

Analysis:

- This query will show the count of each policy type and the total premiums they generated.
- Insight into which policy types are most profitable and which ones need more marketing or sales focus.

3. Top Selling Insurance Agents

Objective: Analyze which insurance agents are generating the highest revenue through policy sales. This is crucial for performance analysis and resource allocation.

Analysis:

- This analysis identifies the best-performing agents based on the number of policies sold and total sales revenue.
- Helps in setting sales targets, improving agent performance, and reward systems.

<pre>--Top Selling along with policies select a.Agent_name,count(p.Policy_ID) as Total_Policies_Sold,sum(s.sale_amount) as Total_Sale_amount from Project_Insurance_Policy_Sales s join Project_Insurance_Agent a on a.Agent_Id=s.agent_id join project_insurance_Policy p on s.Policy_id= p.Policy_ID group by a.Agent_name,s.sale_amount order by sum(s.sale_amount) desc;</pre>																																															
<div>Script Output x Query Result x</div> <div>All Rows Fetched: 10 in 0.056 seconds</div> <table> <tr> <th>AGENT_NAME</th><th>TOTAL_POLICIES_SOLD</th><th>TOTAL_SALE_AMOUNT</th><th></th></tr> <tr><td>1 Rachel Adams</td><td>3</td><td>31500</td><td></td></tr> <tr><td>2 Lily Green</td><td>2</td><td>22000</td><td></td></tr> <tr><td>3 Sarah Lee</td><td>3</td><td>9600</td><td></td></tr> <tr><td>4 David Johnson</td><td>3</td><td>9600</td><td></td></tr> <tr><td>5 Mia Black</td><td>2</td><td>6800</td><td></td></tr> <tr><td>6 Jack White</td><td>2</td><td>6400</td><td></td></tr> <tr><td>7 James Brown</td><td>2</td><td>5000</td><td></td></tr> <tr><td>8 Emily Brown</td><td>3</td><td>3300</td><td></td></tr> <tr><td>9 Michael Smith</td><td>3</td><td>3300</td><td></td></tr> <tr><td>10 Oliver Gray</td><td>2</td><td>2200</td><td></td></tr> </table>				AGENT_NAME	TOTAL_POLICIES_SOLD	TOTAL_SALE_AMOUNT		1 Rachel Adams	3	31500		2 Lily Green	2	22000		3 Sarah Lee	3	9600		4 David Johnson	3	9600		5 Mia Black	2	6800		6 Jack White	2	6400		7 James Brown	2	5000		8 Emily Brown	3	3300		9 Michael Smith	3	3300		10 Oliver Gray	2	2200	
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4. Policy Expiration and Retention Rate

Objective: Analyze policies that are nearing expiration to proactively engage with customers for renewals. Retaining customers is key to long-term business success.

<pre>--3. Policy Expiration and Retention Rate --Scenario: Analyze policies that are nearing expiration to proactively reach out to --customers for renewal or retention campaigns, improving customer loyalty and retention rates. select c.first_name,p.Policy_number,p.Policy_type,p.end_date,round(abs(sysdate-p.end_date),0) as days_remaining from Project_Insurance_Customer c join Project_Insurance_Policy p on c.customer_id=p.customer_id where end_date>sysdate and round(abs(sysdate-p.end_date),0)<=60;</pre>																			
<div>Script Output x Query Result x</div> <div>All Rows Fetched: 2 in 0.027 seconds</div> <table> <tr> <th>FIRST_NAME</th><th>POLICY_NUMBER</th><th>POLICY_TYPE</th><th>END_DATE</th><th>DAYS_REMAINING</th></tr> <tr><td>1 Jane</td><td>1002</td><td>Bike Insurance</td><td>01-02-25</td><td>11</td></tr> <tr><td>2 Alice</td><td>1003</td><td>Truck Insurance</td><td>01-03-25</td><td>39</td></tr> </table>					FIRST_NAME	POLICY_NUMBER	POLICY_TYPE	END_DATE	DAYS_REMAINING	1 Jane	1002	Bike Insurance	01-02-25	11	2 Alice	1003	Truck Insurance	01-03-25	39
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Analysis:

- This query identifies customers with policies expiring in the next 60 days.
- Helps marketing teams send reminders or offer renewal discounts to improve retention rates.

5. Customer Segmentation by Premium Amount

Objective: Segment customers into different premium categories (Low, Medium, High) based on the premium amounts paid. This helps in understanding customer preferences and tailoring product offerings.

```
select c.first_name,c.last_name, p.Policy_number,p.Policy_type,p.Premium_amount,
case
  when p.Premium_amount between 500 and 2000 then 'Low_Premium'
  when p.Premium_amount between 2000 and 5000 then 'Med_Premium'
  else 'High_Premium'
end as Premium_Segment
from Project_Insurance_Customer c
join Project_Insurance_Policy p
on c.customer_id =p.customer_id
order by p.Premium_amount desc;
```

Script Output x Query Result x

SQL | All Rows Fetched: 25 in 0.014 seconds

	FIRST_NAME	LAST_NAME	POLICY_NUMBER	POLICY_TYPE	PREMIUM_AMOUNT	PREMIUM_SEGMENT
1	Alice	Johnson	1003	Truck Insurance	10000	High_Premium
2	Alexander	White	1244	Truck Insurance	10000	High_Premium
3	Lucas	Gonzalez	1188	Truck Insurance	10000	High_Premium
4	Emma	Williams	1133	Truck Insurance	10000	High_Premium
5	Isabella	Anderson	1211	Truck Insurance	10000	High_Premium
6	Ethan	Martin	1007	Truck Insurance	10000	High_Premium
7	Bob	Williams	1004	Car Insurance	3000	Med_Premium
8	James	Davis	1144	Car Insurance	3000	Med_Premium
9	Sophia	Taylor	1155	Car Insurance	3000	Med_Premium
10	Ethan	Thomas	1222	Car Insurance	3000	Med_Premium
11	Megan	Brown	1111	Car Insurance	3000	Med_Premium
12	Charlotte	Martin	1255	Car Insurance	3000	Med_Premium
13	Liam	Martinez	1166	Car Insurance	3000	Med_Premium
14	John	Doe	1001	Car Insurance	3000	Med_Premium
15	Ava	Lopez	1199	Car Insurance	3000	Med_Premium

Analysis:

- Segments customers based on the premium they pay, allowing the business to understand customer buying patterns.
- Useful for customer retention strategies and upselling policies.

6. Claim Status and Claim Amount Analysis

Objective: Examine the status of claims and the claim amounts for different types of vehicles (Car, Bike, Truck). This helps in identifying trends in claim frequency and claim sizes, which are critical for adjusting premiums and payouts.

```
select v.vehicle_type,c.Status,count(c.Status),sum(c.claim_amount) from Project_Insurance_Vehicle v
join Project_Insurance_Claim c
on v.Policy_ID=c.policy_id
group by v.vehicle_type,c.status
order by sum(c.claim_amount) desc;
```

Script Output x Query Result x

SQL | All Rows Fetched: 9 in 0.014 seconds

VEHICLE_TYPE	STATUS	COUNT(C.STATUS)	SUM(C.CLAIM_AMOUNT)
1 Truck	Claimed	4	39000
2 Car	Pending	6	31500
3 Car	Under Investigation	4	19200
4 Truck	Approved	2	19000
5 Bike	Pending	3	11500
6 Car	Approved	1	7000
7 Bike	Approved	3	6500
8 Bike	Claimed	1	2500
9 Bike	Under Investigation	1	1800

Analysis:

- This query shows the number of claims and the total claim amounts based on claim status (approved, pending, under investigation, etc.) for each vehicle type.
- Helps the insurance company to track the financial impact of claims based on vehicle type and claim status.

7. Top 3 Customers by Sales Volume

Objective: Identify the top 3 customers who have contributed the most in terms of total sales or premiums. This provides insights into the most valuable customers.

Analysis:

- Identifies the top 3 customers based on the total sales amount generated from their policies.
- Helps in understanding which customers contribute the most to the company's revenue.

```
select
    first_name,
    last_name,
    Total_Sales,Rankings
from (SELECT
    c.first_name,
    c.last_name,
    SUM(s.sale_amount) AS Total_Sales,
    dense_Rank() over (order by sum(s.sale_amount) desc) as Rankings
FROM
    Project_Insurance_Customer c
JOIN
    Project_Insurance_Policy p ON c.customer_id = p.customer_id
JOIN
    Project_Insurance_Policy_Sales s ON p.Policy_id = s.Policy_id
group by  c.first_name,c.last_name
)Ranking_Rate
where Rankings<=3;
```

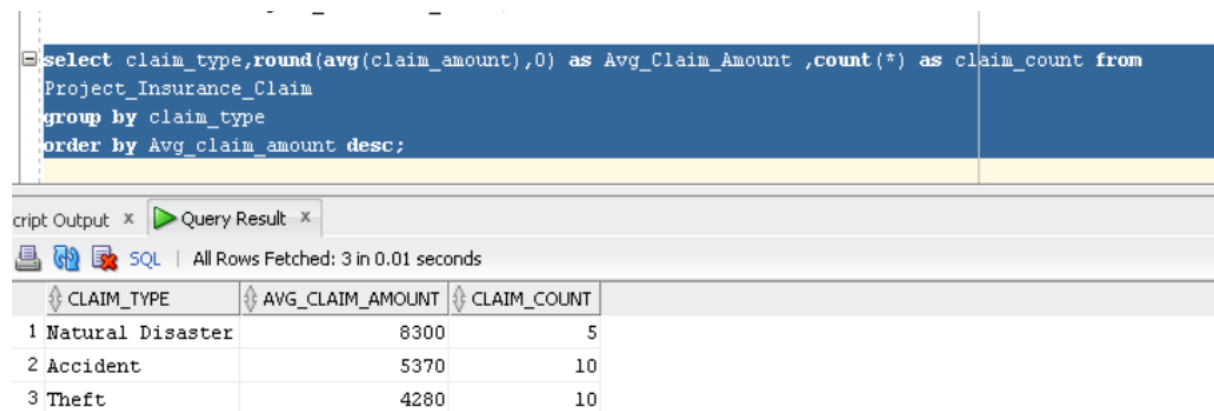
Script Output x Query Result x

SQL | All Rows Fetched: 7 in 0.016 seconds

	FIRST_NAME	LAST_NAME	TOTAL_SALES	RANKINGS
1	Ethan	Thomas	11000	1
2	Ethan	Martin	11000	1
3	Lucas	Gonzalez	10500	2
4	Emma	Williams	10500	2
5	Alice	Johnson	10500	2
6	Lucas	Miller	3400	3
7	Alexander	White	3400	3

8. Claim Amount by Claim Type

Objective: Analyze the average claim amount and total claim amount for different claim types such as accidents, theft, or natural disasters.



```
select claim_type,round(avg(claim_amount),0) as Avg_Claim_Amount ,count(*) as claim_count from
Project_Insurance_Claim
group by claim_type
order by Avg_claim_amount desc;
```

Script Output x Query Result x

SQL | All Rows Fetched: 3 in 0.01 seconds

CLAIM_TYPE	AVG_CLAIM_AMOUNT	CLAIM_COUNT
1 Natural Disaster	8300	5
2 Accident	5370	10
3 Theft	4280	10

Analysis:

- This query provides insights into which claim types are leading to higher claims.
- Useful for adjusting pricing strategies and preparing for large claims.