

BRIGHTLEARN Practical exercise (Google BigQuery)

Dataset: Retail Sales Dataset

The screenshot shows the Google Cloud BigQuery console interface. At the top, there's a search bar and navigation links. The main area displays a query titled "Untitled query" with the following SQL code:

```
1 -- Q1. Filter all transactions that occurred in the year 2023.
2 SELECT *
3 FROM `polar-strata-478207-k7.SALES_DATA`
4 WHERE EXTRACT(YEAR FROM Date) = 2023;
```

The query has been completed successfully, as indicated by the green checkmark and the message "Query completed". Below the query, the "Query results" section is visible, showing a table with 10 columns: Row, Transaction ID, Date, Customer ID, Gender, Age, Product Category, Quantity, Price per Unit, and Total Amount. The table contains 8 rows of data.

Row	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Amount
1	191	2023-10-18	CUST191	Male	64	Beauty	1	25	25
2	204	2023-09-28	CUST204	Male	39	Beauty	1	25	25
3	230	2023-04-23	CUST230	Male	54	Beauty	1	25	25
4	232	2023-02-06	CUST232	Female	43	Beauty	1	25	25
5	309	2023-12-23	CUST309	Female	26	Beauty	1	25	25
6	310	2023-10-12	CUST310	Female	28	Beauty	1	25	25
7	363	2023-06-03	CUST363	Male	64	Beauty	1	25	25
8	371	2023-03-11	CUST371	Female	39	Beauty	1	25	25

The bottom of the console shows the "Job history" section.

The screenshot shows the Google Cloud BigQuery console interface. The query titled "Untitled query" is displayed with the following SQL code:

```
1 -- Q2. Display transactions where Total Amount > average Total Amount
2 SELECT *
3 FROM `polar-strata-478207-k7.SALES_DATA`
4 WHERE Total Amount > (SELECT AVG(Total Amount) FROM `polar-strata-478207-k7.SALES_DATA`);
```

A warning message is shown: "This query will process 72.69 KB when run." Below the query, the "Query results" section is visible, showing a table with 10 columns: Row, Transaction ID, Date, Customer ID, Gender, Age, Product Category, Quantity, Price per Unit, and Total Amount. The table contains 7 rows of data.

Row	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Amount
1	21	2023-01-14	CUST021	Female	50	Beauty	1	500	500
2	28	2023-04-23	CUST028	Female	43	Beauty	1	500	500
3	128	2023-07-05	CUST128	Male	25	Beauty	1	500	500
4	220	2023-03-03	CUST220	Male	64	Beauty	1	500	500
5	238	2023-01-17	CUST238	Female	39	Beauty	1	500	500
6	364	2023-08-23	CUST364	Female	19	Beauty	1	500	500
7	408	2023-04-15	CUST408	Female	64	Beauty	1	500	500

The bottom of the console shows the "Job history" section.

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Set up billing to upgrade to the full BigQuery experience. [Learn more](#)

Untitled query

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1 -- Q3. Calculate total revenue

2 SELECT SUM(`Total Amount`) AS Total_Revenue

3 FROM `polar-strata-478207-k7.SALES_DATA`;

Query completed

Using on-demand processing quota

Query results

Save results

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Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Total_Revenue
1	456000

Results per page: 50

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Job history

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Untitled query

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1 -- Q4. Display distinct Product Categories

2 SELECT DISTINCT `Product Category`

3 FROM `polar-strata-478207-k7.SALES_DATA`;

4

This script will process 117.44 KB when run.

Query results

Save results

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Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Product Category
1	Beauty
2	Clothing
3	Electronics

Results per page: 50

1 - 3 of 3

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Job history

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Untitled query

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```
1 -- Q5. Total quantity sold per Product Category
2 SELECT 'Product Category', SUM(Quantity) AS Total_Quantity
3 FROM `polar-strata-478287-k7.SALES_DATA`
4 GROUP BY 'Product Category';
5
```

✓ This script will process 107.27 KB when run.

Using on-demand processing quota

Query results

Save results

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Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Product Category	Total_Quantity
1	Beauty	771
2	Clothing	894
3	Electronics	849

Results per page: 50 1 - 3 of 3 |< < > >|

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Untitled query

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```
1 -- Q6. Age Group classification
2 SELECT 'Customer ID', Age,
3       CASE
4         WHEN Age < 30 THEN 'Youth'
5         WHEN Age BETWEEN 30 AND 59 THEN 'Adult'
6         ELSE 'Senior'
7       END AS Age_Group
8 FROM `polar-strata-478287-k7.SALES_DATA`;
9
```

✓ This script will process 89.29 KB when run.

Using on-demand processing quota

Query results

Save results

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Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Customer ID	Age	Age_Group
1	CUST191	64	Senior
2	CUST204	39	Adult
3	CUST230	54	Adult
4	CUST232	43	Adult
5	CUST309	26	Youth
6	CUST310	28	Youth

Results per page: 50 1 - 50 of 1000 |< < > >|

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Untitled query

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```
1 -- Q7. High-value transactions per Gender
2 SELECT Gender, COUNT(*) AS High_Value_Transactions
3 FROM `polar-strata-478287-k7.SALES.DATA`
4 WHERE `Total_Amount` > 500
5 GROUP BY Gender;
```

This script will process 72.69 KB when run.

Using on-demand processing quota

Query results

Save results

Open in

Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Gender	High_Value_Trans...
1	Female	155
2	Male	144

Results per page: 50

1 - 2 of 2

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Untitled query

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```
1 -- Q8. Product Categories with revenue > 5000
2 SELECT `Product Category`, SUM(`Total_Amount`) AS Total_Revenue
3 FROM `polar-strata-478287-k7.SALES.DATA`
4 GROUP BY `Product Category`
5 HAVING SUM(`Total_Amount`) > 5000;
```

Using on-demand processing quota

Query results

Save results

Open in

Job information

Results

Visualization

JSON

Execution details

Execution graph

Row	Product Category	Total_Revenue
1	Beauty	143515
2	Clothing	155580
3	Electronics	156905

Results per page: 50

1 - 3 of 3

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Untitled query Run Schedule Open in More Save Download Share

```
1 -- Q9. Unit Cost Category
2 SELECT 'Transaction ID', 'Price per Unit',
3        CASE
4          WHEN 'Price per Unit' < 50 THEN 'Cheap'
5          WHEN 'Price per Unit' BETWEEN 50 AND 200 THEN 'Moderate'
6          ELSE 'Expensive'
7        END AS Unit_Cost_Category
8 FROM 'polar-strata-478207-k7.SALES_DATA';
9
```

✓ This script will process 40.04 KB when run.
Using on-demand processing quota

Query results Save results Open in

Job information Results Visualization JSON Execution details Execution graph

Row	Transaction ID	Price per Unit	Unit_Cost_Category
1	191	25	Cheap
2	204	25	Cheap
3	230	25	Cheap
4	232	25	Cheap
5	309	25	Cheap
6	310	25	Cheap

Results per page: 50 1 - 50 of 1000 < > >>

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Untitled query Run Schedule Open in More Save Download Share

```
1 -- Q10. Transactions for customers aged 40+ with Spending Level
2 SELECT 'Customer ID', Age, 'Total Amount',
3        CASE
4          WHEN 'Total Amount' > 1000 THEN 'High'
5          ELSE 'Low'
6        END AS Spending_Level
7 FROM 'polar-strata-478207-k7.SALES_DATA'
8 WHERE Age >= 40;
9
```

✓ This query will process 24.42 KB when run.
Using on-demand processing quota

Query results Save results Open in

Job information Results Visualization JSON Execution details Execution graph

Row	Customer ID	Age	Total Amount	Spending_Level
1	CUST191	64	25	Low
2	CUST230	54	25	Low
3	CUST232	43	25	Low
4	CUST363	64	25	Low
5	CUST454	46	25	Low
6	CUST512	57	25	Low

Results per page: 50 1 - 50 of 558 < > >>

Job history Show