

BRIGHTLEARN Practical exercise (Google BigQuery)

Dataset: Retail Sales Dataset

The screenshot shows the Google Cloud BigQuery interface. At the top, there's a navigation bar with 'Google Cloud' and 'My First Project'. A search bar says 'Search (/) for resources, docs, products, and more' with a 'Search' button. Below the navigation is a 'Sandbox' message about upgrading to the full BigQuery experience, with a 'Learn more' link and 'Dismiss' and 'Upgrade' buttons.

The main area shows a query editor with a tab titled 'Untitled...ery'. The code is:

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

A green checkmark indicates 'Query completed' and 'Using on-demand processing quota'.

Below the editor is a 'Query results' section. It has tabs for 'Job information', 'Results' (which is selected), 'Visualization', 'JSON', 'Execution details', and 'Execution graph'. The results table has columns: Row, Transaction ID, Date, Customer ID, Gender, Age, Product Category, Quantity, Price per Unit, and Total Amount. The data is as follows:

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	971	2023-09-21	CUST971	Female	22	Beauty	1	25	25

At the bottom, there are buttons for 'Results per page: 50', '1 - 50 of 998', and navigation arrows. The 'Job history' and 'Show' buttons are also visible.

The screenshot shows the Google Cloud BigQuery interface. At the top, there are navigation links for 'Google Cloud' and 'My First Project'. A search bar is present with placeholder text 'Search (/) for resources, docs, products, and more'. On the far right, there are icons for 'Dismiss' and 'Upgrade'.

The main area displays a query titled 'Untitled query'. The code is as follows:

```
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 note indicates that this query will process 72.69 KB when run, using on-demand processing quota.

The 'Query results' section shows a table with the following data:

	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	2023-09-03	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

At the bottom, there are buttons for 'Save results' and 'Open in', and a 'Results per page' dropdown set to 50. The 'Job history' section is also visible.

Google Cloud My First Project Search (/) for resources, docs, products, and more Search Dismiss Upgrade

Sandbox Set up billing to upgrade to the full BigQuery experience. Learn more

Untitled query Run Schedule Open in More Save Download Share

-- Q3 . Calculate total revenue
SELECT SUM('Total_Amount') AS Total_Revenue
FROM `polar-strata-478207-k7.SALES.DATA`;

Query completed Using on-demand processing quota

Query results Job information Results Visualization JSON Execution details Execution graph

Row	Total_Revenue
1	456000

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

Job history

This screenshot shows the Google BigQuery web interface. In the top navigation bar, it says 'Google Cloud' and 'My First Project'. A search bar is present with the placeholder 'Search (/) for resources, docs, products, and more'. There are 'Search' and 'Upgrade' buttons. A 'Sandbox' message encourages upgrading to the full BigQuery experience. The main area shows an 'Untitled query' tab with a single SQL command to calculate total revenue. The 'Run' button is highlighted. Below the query, a green checkmark indicates the query completed successfully, mentioning 'Using on-demand processing quota'. The 'Query results' section is active, showing a table with one row of data: Row 1, Total_Revenue 456000. The table has columns 'Row' and 'Total_Revenue'. Navigation controls at the bottom allow for results per page (50), page number (1 - 1 of 1), and page navigation (<, <<, >, >>). On the left, there's a sidebar with various icons and a 'Job history' section.

Google Cloud My First Project Search (/) for resources, docs, products, and more Search Dismiss Upgrade

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Untitled query Run Schedule Open in More Save Download Share

-- Q4 . Display distinct Product Categories
SELECT DISTINCT Product_Cat
FROM `polar-strata-478207-k7.SALES.DATA`;

This script will process 117.44 KB when run.

Query results Job information Results Visualization JSON Execution details Execution graph

Row	Product_Cat
1	Beauty
2	Clothing
3	Electronics

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

Job history

This screenshot shows the Google BigQuery web interface. It is similar to the first one but displays a different query. The 'Untitled query' tab contains a SQL command to select distinct product categories from the 'SALES.DATA' table. The 'Run' button is highlighted. Below the query, a green checkmark indicates the script will process 117.44 KB when run. The 'Query results' section is active, showing a table with three rows of data: Row 1, Product_Cat Beauty; Row 2, Product_Cat Clothing; Row 3, Product_Cat Electronics. The table has columns 'Row' and 'Product_Cat'. Navigation controls at the bottom allow for results per page (50), page number (1 - 3 of 3), and page navigation (<, <<, >, >>). The left sidebar includes a 'Job history' section.

Google Cloud My First Project Search (/) for resources, docs, products, and more Search Dismiss Upgrade

Sandbox Set up billing to upgrade to the full BigQuery experience. Learn more

Untitled query Run Schedule Open in More Save Download Share

```
-- Q5. Total quantity sold per Product Category
SELECT 'Product Category', SUM(Quantity) AS Total_Quantity
FROM `polar-strata-478207-k7.SALES.DATA`
GROUP BY 'Product Category';
```

This script will process 107.27 KB when run.

Using on-demand processing quota

Query results

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 < > Show

Job history

Google Cloud My First Project Search (/) for resources, docs, products, and more Search Dismiss Upgrade

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Untitled query Run Schedule Open in More Save Download Share

```
-- Q6. Age Group classification
SELECT 'Customer ID', 'Age',
CASE
WHEN Age < 30 THEN 'Youth'
WHEN Age BETWEEN 30 AND 59 THEN 'Adult'
ELSE 'Senior'
END AS 'Age_Group'
FROM `polar-strata-478207-k7.SALES.DATA`;
```

This script will process 89.29 KB when run.

Using on-demand processing quota

Query results

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 < > Show

Job history

Google Cloud My First Project Search (/) for resources, docs, products, and more

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

Untitled query Run Schedule Open in More Save Download Share

```
1 -- Q7. High-value transactions per Gender
2 SELECT Gender, COUNT(*) AS High_Value_Transactions
3 FROM `polar-strata-478207-k7.SALES.DATA`
4 WHERE `Total_Amount` > 500
5 GROUP BY Gender;
6
```

This script will process 72.69 KB when run.

Using on-demand processing quota

Query results

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 < > >>

Job history Show

The screenshot shows the Google BigQuery web interface. The top navigation bar includes 'Google Cloud' and 'My First Project'. A search bar is present. A 'Sandbox' message encourages upgrading to the full BigQuery experience. The main area displays an 'Untitled query' with the following SQL code:

```
1 -- Q7. High-value transactions per Gender
2 SELECT Gender, COUNT(*) AS High_Value_Transactions
3 FROM `polar-strata-478207-k7.SALES.DATA`
4 WHERE `Total_Amount` > 500
5 GROUP BY Gender;
6
```

A note indicates the script will process 72.69 KB when run, using on-demand processing quota. The 'Results' tab is selected, showing a table with two rows: Female (155) and Male (144). The table has columns for Row, Gender, and High_Value_Trans... (truncated). Below the table, pagination controls show 1 – 2 of 2 results per page. A 'Job history' section is at the bottom.

Google Cloud My First Project Search (/) for resources, docs, products, and more

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

Untitled query Run Schedule Open in More Save Download Share

```
1 -- Q8. Product Categories with revenue > 5000
2 SELECT `Product Category`, SUM(`Total_Amount`) AS Total_Revenue
3 FROM `polar-strata-478207-k7.SALES.DATA`
4 GROUP BY `Product Category`;
5 HAVING SUM(`Total_Amount`) > 5000;
6
```

Using on-demand processing quota

Query results

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 < > >>

Job history Show

The screenshot shows the Google BigQuery web interface. The top navigation bar includes 'Google Cloud' and 'My First Project'. A search bar is present. A 'Sandbox' message encourages upgrading to the full BigQuery experience. The main area displays an 'Untitled query' with the following SQL code:

```
1 -- Q8. Product Categories with revenue > 5000
2 SELECT `Product Category`, SUM(`Total_Amount`) AS Total_Revenue
3 FROM `polar-strata-478207-k7.SALES.DATA`
4 GROUP BY `Product Category`;
5 HAVING SUM(`Total_Amount`) > 5000;
6
```

A note indicates the query is using on-demand processing quota. The 'Results' tab is selected, showing a table with three rows: Beauty (143515), Clothing (155580), and Electronics (156905). The table has columns for Row, Product Category, and Total_Revenue. Below the table, pagination controls show 1 – 3 of 3 results per page. A 'Job history' section is at the bottom.

Google Cloud My First Project Search (/) for resources, docs, products, and more

Sandbox Set up billing to upgrade to the full BigQuery experience. Learn more

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`;
```

This script will process 40.04 KB when run.

Using on-demand processing quota

Query results

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

Job history Show

Google Cloud My First Project Search (/) for resources, docs, products, and more

Sandbox Set up billing to upgrade to the full BigQuery experience. Learn more

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;
```

This query will process 24.42 KB when run.

Using on-demand processing quota

Query results

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