

Practical: Google BigQuery

Question 1

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```
1 -- 1. Filter all transactions that occurred in the year 2023.
2 SELECT *
3 FROM `diesel-studio-478918-v1.sales.data`
4 WHERE EXTRACT(YEAR FROM Date) = 2023;
```

✓ This query will process 72.69 KB when run.

Using on-demand processing quota

Query results [Save results](#) [Open in](#)

Job information **Results** Visualisation JSON Execution details Execution graph

Row	Transaction ID	Date	Customer ID	Gender	Age	Product Category	Quantity	Price per Unit
1	191	2023-10-18	CUST191	Male	64	Beauty	1	
2	204	2023-09-28	CUST204	Male	39	Beauty	1	

Results per page: 50 1 – 50 of 998

Question 2

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```
1 -- Q2. Display all transactions where the Total Amount is more than the average Total Amount of the entire dataset.
2 SELECT *
3 FROM `diesel-studio-478918-v1.sales.data`
4 WHERE `total amount` > (
5   SELECT AVG(`total amount`)
6   FROM `diesel-studio-478918-v1.sales.data`
7 )
```

✓ Query completed

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Job information **Results** Visualisation JSON Execution details Execution graph

Customer ID	Gender	Age	Product Category	Quantity	Price per Unit	Total Amount
CUST021	Female	50	Beauty	1	500	
CUST028	Female	43	Beauty	1	500	

Results per page: 50 1 – 50 of 350

Question 3

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```
1 -- Q3. Calculate the total revenue (sum of Total Amount).
2 SELECT
3 | SUM(`total amount`) AS `Total Revenue`
4 FROM `diesel-studio-478918-v1.sales.data`;
```

Query completed

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Query results

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Job information

Results

Visualisation

JSON

Execution details

Execution graph

Row	Total Revenue
1	456000

Results per page: 50 1 – 1 of 1

Question 4

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```
1 --Q4. Display all distinct Product Categories in the dataset.
2 SELECT DISTINCT `Product Category`
3 FROM `diesel-studio-478918-v1.sales.data`;
```

Query completed

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Query results

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Job information

Results

Visualisation

JSON

Execution details

Execution graph

Row	Product Category
1	Beauty
2	Clothing
3	Electronics

Results per page: 50 1 – 3 of 3

Question 5

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```
1 --Q5. For each Product Category, calculate the total quantity sold.
2 SELECT
3   'Product Category',
4   SUM('Quantity') AS 'Total Quantity'
5 FROM 'diesel-studio-478918-v1.sales.data'
```

✓ Query completed

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Query results [Save results](#) [Open in](#)

Job information **Results** Visualisation JSON Execution details Execution graph

Row	Product Category	Total Quantity
1	Beauty	771
2	Clothing	894

Question 6

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```
2 SELECT
3   'Customer ID',
4   Age,
5   CASE
6     WHEN Age < 30 THEN 'Youth'
7     WHEN Age BETWEEN 30 AND 59 THEN 'Adult'
8     WHEN Age >= 60 THEN 'Senior'
9   END AS Age_Group
10 FROM 'diesel-studio-478918-v1.sales.data'
```

✓ Query completed

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Job information **Results** Visualisation JSON Execution details Execution graph

Row	Customer ID	Age	Age_Group
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Results per page: 50 1 – 50 of 1000 |< < > >|

Question 7

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```
1 --Q7. For each Gender, count how many high-value transactions occurred (where TotalAmount > 500).
2 SELECT
3     Gender,
4     COUNT(*) AS 'High Value Transactions'
5 FROM 'diesel-studio-478918-v1.sales.data'
6 WHERE 'Total Amount' > 500
```

Query completed

Using on-demand processing quota

Query results [Save results](#) [Open in](#)

Job information **Results** Visualisation JSON Execution details Execution graph

Row	Gender	High Value Trans...
1	Female	155
2	Male	144

Results per page: 50 1 – 2 of 2

Question 8

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```
2 SELECT
3     'Product Category',
4     SUM('Total Amount') AS 'Total Revenue'
5 FROM 'diesel-studio-478918-v1.sales.data'
6 GROUP BY 'Product Category'
7 HAVING SUM('Total Amount') > 5000
```

Query completed

Using on-demand processing quota

Query results [Save results](#) [Open in](#)

Job information **Results** Visualisation JSON Execution details Execution graph

Row	Product Category	Total Revenue
1	Beauty	143515
2	Clothing	155580

Results per page: 50 1 – 3 of 3

Question 9

Untitled query

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```
1 SELECT
2   'Transaction ID',
3   'Price per Unit',
4   CASE
5     WHEN 'Price per Unit' < 50 THEN 'Cheap'
6     WHEN 'Price per Unit' BETWEEN 50 AND 200 THEN 'Moderate'
7     WHEN 'Price per Unit' > 200 THEN 'Expensive'
8   END AS 'Unit Cost Category'
9 FROM 'diesel-studio-478918-v1.sales.data'
```

Query completed

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Query results

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Job information

Results

Visualisation

JSON

Execution details

Execution graph

Question 10

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data

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Untitled query

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```
1 SELECT
2   'Customer ID',
3   'Age',
4   'Total Amount',
5   CASE
6     WHEN 'Total Amount' > 1000 THEN 'High'
7     ELSE 'Low'
8   END AS 'Spending Level'
9 FROM 'diesel-studio-478918-v1.sales.data'
10 WHERE 'Age' >= 40;
```

Query completed

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Query results

Save results

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Job information

Results

Visualisation

JSON

Execution details

Execution graph