

Heaven's Light is Our Guide
Rajshahi University of Engineering and Technology



Course Code
ECE 2216

Course Title
Database Systems Sessional

Experiment Date: December 5, 2023,
Submission Date: December 12, 2023

Lab Report 8: MySQL Complex Query on Database.

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1 Tools Used

- MySQL
- VS Code - as an IDE to use SQL
- MacTeX - \LaTeX compiler
- VS Code with LaTeX workshop extension as a text editor

2 Process

SQL Codes:

2.0.1 Find the person who is the top of the organisation (i.e. reports to no one).

Code:

```
1 SELECT
2     *
3 FROM
4     employees
5 WHERE
6     reportsTo IS NULL;
```

2.0.2 Find the difference in days between the most recent and oldest order date in Orders file.

Code:

```
1 SELECT
2     datediff(max(orderDate), min(orderDate))
3 FROM
4     orders;
```

2.0.3 Find the value of payments received in July 2004.

Code:

```
1 SELECT
2     sum(amount)
3 FROM
4     payments
5 WHERE
6     YEAR(paymentDate) = 2004
7     and MONTH(paymentDate) = 7;
```

2.0.4 Compute the profit generated by each sales representative based on the orders from the customers they serve. Sort by profit generated descending.

Code:

```
1 SELECT
2     concat(e.firstName, ' ', e.lastName),
3     e.jobTitle,
4     SUM(od.quantityOrdered *(od.priceEach - p.buyPrice)) AS
5     ↪ totalProfit
6 FROM
7     employees e
8     JOIN customers c ON e.employeeNumber = c.salesRepEmployeeNumber
9     JOIN orders o USING(customerNumber)
10    JOIN orderdetails od USING(orderNumber)
11    JOIN products p USING(productCode)
12 GROUP BY
13     e.employeeNumber
14 ORDER BY
15     SUM(od.quantityOrdered *(od.priceEach - p.buyPrice)) DESC;
```

2.0.5 Find the products sold in 2003 but not 2004.

Code:

```
1 SELECT
2     shippedDate,
3     productCode,
4     productName
5 FROM
```

```

6      orders o
7      JOIN orderdetails od USING(orderNumber)
8      JOIN products p USING(productCode)
9  GROUP BY
10     shippedDate,
11     productCode,
12     productName
13  HAVING
14     YEAR(o.shippedDate) = 2003
15  ORDER BY
16     shippedDate ASC;

```

2.0.6 Report the number of orders ‘On Hold’ for each customer.

Code:

```

1  SELECT
2      COUNT(orderNumber)
3  FROM
4      orders
5  WHERE
6      status = 'On Hold';

```

2.0.7 The names of products sold at less than 80% of the MSRP.

Code:

```

1  SELECT
2      productCode,
3      priceEach,
4      MSRP
5  FROM
6      products
7      JOIN orderdetails USING(productCode)
8  WHERE
9      priceEach < 0.8 * MSRP

```

3 Output

employeeNumb...	lastName	firstName	extension	email	officeCode	reportsTo	jobTitle
Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...	Filter...
1002	Murphy	Diane	x5800	dmurphy@classicmodelcars.c...	1	NULL	President

The person who is the top of the organization (i.e. reports to no one)

datediff(max(o...
Filter...
876

sum(amount)
Filter...
284191.48

COUNT(orderN...
Filter...
4

Difference in days between
the most recent and oldest
order date in Orders file.

Total value of payments
received in July 2004.

The number of orders 'On
Hold' for each customer.

concat(e.firstN...	jobTitle	totalProfit
Filter...	Filter...	Filter...
Gerard Hernandez	Sales Rep	504644.71
Leslie Jennings	Sales Rep	435208.35
Pamela Castillo	Sales Rep	340727.90
Larry Bott	Sales Rep	290203.59
Barry Jones	Sales Rep	276659.25
George Vanauf	Sales Rep	269596.09
Loui Bondur	Sales Rep	234891.07
Peter Marsh	Sales Rep	230811.75
Andy Fixter	Sales Rep	222207.18
Steve Patterson	Sales Rep	197879.23
Foon Yue Tseng	Sales Rep	194839.92
Mami Nishi	Sales Rep	181181.80
Martin Gerard	Sales Rep	156878.63
Julie Firrelli	Sales Rep	152119.31
Leslie Thompson	Sales Rep	138031.47

Profit generated by each sales representative based on the orders from the customers
they serve. Sorted by profit generated descending.

shippedDate	productCode	productName
Filter...	Filter...	Filter...
2003-01-10	S18_1749	1917 Grand Touring Sedan
2003-01-10	S18_2248	1911 Ford Town Car
2003-01-10	S18_4409	1932 Alfa Romeo 8C2300 Spider Sport
2003-01-10	S24_3969	1936 Mercedes Benz 500K Roadster
2003-01-11	S18_2325	1932 Model A Ford J-Coupe
2003-01-11	S18_2795	1928 Mercedes-Benz SSK
2003-01-11	S24_1937	1939 Chevrolet Deluxe Coupe
2003-01-11	S24_2022	1938 Cadillac V-16 Presidential Limous...
2003-01-14	S18_1342	1937 Lincoln Berline
2003-01-14	S18_1367	1936 Mercedes-Benz 500K Special Ro...
2003-02-01	S12_3148	1969 Corvair Monza
2003-02-01	S12_4473	1957 Chevy Pickup
2003-02-01	S18_2238	1998 Chrysler Plymouth Prowler
2003-02-01	S18_2319	1964 Mercedes Tour Bus
2003-02-01	S18_2232	1962 Ferrari 250 Spider road

Products sold in 2003 but not 2004.

productCode	priceEach	MSRP
Filter...	Filter...	Filter...
S10_2016	95.15	118.94
S18_1129	113.23	141.54
S18_1342	82.19	102.74
S18_1589	99.55	124.44
S18_1589	99.55	124.44
S18_1662	126.15	157.69
S18_1662	126.15	157.69
S18_2248	48.43	60.54
S18_2581	67.58	84.48
S18_2581	67.58	84.48
S18_3232	135.47	169.34
S18_3232	135.47	169.34
S18_3232	135.47	169.34

Names of products sold at less than 80% of
the MSRP.