

SQL

1. Мы отсылаем поздравительные сообщения по электронной почте всем клиентам Компании на 23 Февраля и 8 Марта. Одним запросом определите количество поздравлений, которые следует отправить отдельно 23 Февраля и 8 Марта.

РЕШЕНИЕ:

```
SELECT
CASE
    WHEN Gender = 'M' THEN '23 February'
    WHEN Gender = 'F' THEN '8 March'
END AS Holiday,
COUNT(*) AS Number
FROM HW4.Client
GROUP BY
CASE
    WHEN Gender = 'M' THEN '23 February'
    WHEN Gender = 'F' THEN '8 March'
END
```

LIMIT 0, 1000 2 row(s) returned 0.0046 sec / 0.000037 sec

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
1 SELECT
2 CASE
3     WHEN Gender = 'M' THEN '23 February'
4     WHEN Gender = 'F' THEN '8 March'
5 END AS Holiday,
6 COUNT(*) AS Number
7 FROM HW4.Client
8 GROUP BY
9 CASE
10     WHEN Gender = 'M' THEN '23 February'
11     WHEN Gender = 'F' THEN '8 March'
12 END
```

The Results Grid shows the following data:

Holiday	Number
8 March	3
23 February	5

The Action Output pane shows the execution details:

	Time	Action	Response	Duration / Fetch Time
42	16:26:45	SELECT CASE WHEN Gender = 'M'...	2 row(s) returned	0.0046 sec / 0.0000...
43	16:27:16	SELECT * FROM HW4.Client LIMIT 0, 1...	8 row(s) returned	0.00074 sec / 0.0000...

2. Вывести список заказов клиентов: [Фамилия + имя, название фирмы, дата заказа, сумма заказа], отсортированный по фамилии, имени, дате заказа.

РЕШЕНИЕ:

```
SELECT c.Name, c.Surname, o.Ord_Time, o.Amount
FROM HW4.Client c
JOIN HW4.Orders o ON c.ID = o.Client_ID
group by Surname, Name, Ord_Time, Amount
```

LIMIT 0, 1000 11 row(s) returned 0.0037 sec / 0.000019 sec

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL code:

```
1 SELECT c.Name, c.Surname, o.Ord_Time, o.Amount
2 FROM HW4.Client c
3 JOIN HW4.Orders o ON c.ID = o.Client_ID
4 group by Surname, Name, Ord_Time, Amount
5
```

The Results tab shows the following data:

Name	Surname	Ord_Time	Amount
Алина	Астафьева	2023-12-01	114212
Алина	Астафьева	2023-12-02	314511
Егор	Воронцов	2023-12-02	349142
Алина	Астафьева	2023-12-03	669611
Галина	Семенова	2023-12-04	71619
Вазген	Воронцов	2023-12-04	148484
Даниил	Шершавый	2023-12-05	250021
Егор	Воронцов	2023-12-06	650201
Елена	Васильева	2023-12-06	449020
Елена	Васильева	2024-01-10	37000
Ярик	Штейнмаер	2024-01-11	22300

The Action Output tab shows the following log entries:

Time	Action	Response	Duration / Fetch Time
16 15:33:30	SELECT * FROM HW4.Orders LIMIT 0, 1...	11 row(s) returned	0.00068 sec / 0.000...
17 15:34:37	SELECT c.Name, c.Surname, o.Ord_Ti...	11 row(s) returned	0.00087 sec / 0.0000...

3. Если заказ выполнен в день рождения клиента, компания хочет ввести скидку в размере 20% от суммы заказа. Требуется определить общую сумму скидки по всем клиентам за 2023 год, как если бы скидка действовала.

РЕШЕНИЕ:

```
SELECT SUM(CASE
    WHEN EXTRACT(MONTH FROM o.Ord_Time) =
    EXTRACT(MONTH FROM c.Birthday)
    AND EXTRACT(DAY FROM o.Ord_Time) = EXTRACT(DAY FROM
    c.Birthday)
    THEN o.Amount * 0.2
    ELSE 0
```

```

        END) AS Общая_сумма_скидки
FROM HW4.Client c
JOIN HW4.Orders o ON c.ID = o.Client_ID
WHERE YEAR(o.Ord_Time) = 2023

```

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```

1 SELECT SUM(CASE
2     WHEN EXTRACT(MONTH FROM o.Ord_Time) = EXTRACT(MONTH FROM c.Birthday)
3     AND EXTRACT(DAY FROM o.Ord_Time) = EXTRACT(DAY FROM c.Birthday)
4     THEN o.Amount * 0.2
5     ELSE 0
6     END) AS Общая_сумма_скидки
7 FROM HW4.Client c
8 JOIN HW4.Orders o ON c.ID = o.Client_ID
9 WHERE YEAR(o.Ord_Time) = 2023

```

The left sidebar shows the database schema with HW4, VK4, and sys databases. The HW4 database contains tables Client, Firm, and Orders. The VK4 database contains tables Tables, Views, Stored Procedures, and Functions. The sys database contains tables Tables, Views, Stored Procedures, and Functions.

The bottom panel shows the execution results. The first result set, titled "Общая_сумма_скидки", contains a single row with the value 119832.6. The second result set, titled "Result 2", is empty. The bottom panel also shows the execution log with the following entries:

Time	Action	Response	Duration / Fetch Time
45 19:29:37	SELECT * FROM HW4.Orders LIMIT 0, 1...	11 row(s) returned	0.0015 sec / 0.00000...
46 19:29:41	SELECT * FROM HW4.Client LIMIT 0, 1...	8 row(s) returned	0.00077 sec / 0.00000...
47 19:31:11	EXPLAIN SELECT SUM(CASE WHEN ...	OK	0.000 sec

4. Перед Новым 2024-м Годом решено отправить подарки руководителям фирм, сотрудники которых за год в общей сложности сделали заказов более чем на 900 000 руб. Необходимо подготовить такой список: [Название фирмы, адрес, сумма заказов].

РЕШЕНИЕ:

```

SELECT f.Name, f.Address, sum(o.Amount) AS Total_amount
FROM HW4.Firm f
INNER JOIN HW4.Client c ON f.ID = c.Firm_ID
INNER JOIN HW4.Orders o ON c.ID = o.Client_ID
WHERE YEAR(o.Ord_Time) = 2023
group by f.ID, f.Name, f.Address
HAVING sum(o.Amount) > 900000
order by Total_amount desc

```

LIMIT 0, 1000 0 row(s) returned 0.0012 sec / 0.000012 sec

- Warning - not supported

Limit to 1000 rows

```

1 • SELECT f.Name, f.Address, sum(o.Amount) AS Total_amount
2   FROM HW4.Firm f
3   INNER JOIN HW4.Client c ON f.ID = c.Firm_ID
4   INNER JOIN HW4.Orders o ON c.ID = o.Client_ID
5   WHERE YEAR(o.Ord_Time) = 2023
6   group by f.ID, f.Name, f.Address
7   HAVING sum(o.Amount) > 900000
8   order by Total_amount desc;
9

```

100% 28:8

Result Grid Filter Rows: Search Export:

Name	Address	Total_amount
ООО "Вареные Раки"	Уфа, ул. Караидельская, 22	1219446

Result Grid

5. В рамках одного SQL запроса вам необходимо подготовить список мужчин – теоретически возможных близнецов среди всех клиентов (с совпадением фамилии и даты рождения): [ID клиента, фамилия, имя, день рождения].

РЕШЕНИЕ:

```

SELECT ID, Name, Surname, Birthday
FROM HW4.Client
WHERE Gender = 'M'
AND(Surname, Birthday) IN
(SELECT Surname, Birthday
FROM HW4.Client
WHERE Gender = 'M'
GROUP BY Surname, Birthday
HAVING COUNT(*) > 1)

```

MySQL Workbench

Local instance 3306 - Warning - not supported

Administration Schemas Firm Orders Client Client Client Client

SCHEMAS

Filter objects

HW4

Tables

Client

Firm

Orders

Views

Stored Procedures

Functions

sys

VK4

Tables

Views

Stored Procedures

Functions

Object Info Session

Table: Client

Columns:

ID int PK

Name varchar(50)

Surname varchar(50)

Firm_ID int

Gender varchar(1)

Birthday date

Email varchar(100)

```

1 • SELECT ID, Name, Surname, Birthday
2 FROM HW4.Client
3 WHERE Gender = 'M'
4 AND(Surname, Birthday) IN
5 (SELECT Surname, Birthday
6 FROM HW4.Client
7 WHERE Gender = 'M'
8 GROUP BY Surname, Birthday
9 HAVING COUNT(*) > 1)

```

100% 22:9

Result Grid Filter Rows: Search Edit: Export/Import:

ID	Name	Surname	Birthday
2	Егор	Воронцов	1990-12-02
4	Вазген	Воронцов	1990-12-02
NULL	NULL	NULL	NULL

Client 5 Apply Revert

Action Output

	Time	Action	Response	Duration / Fetch Time
57	20:06:29	SELECT ID, Name, Surname, Birthday F...	2 row(s) returned	0.0013 sec / 0.00001...

Query Completed

Примечание:

Server version: 9.3.0 MySQL