Solved SQL Queries

1.   **Imagine you have a table claim including 3 columns: claim(customer_id, claim_datetime, claim_amount). Write a query to only return the last claim record for each customer. Hint: One customer may claim multiple times, so only select the latest claim record.**

Answer 1:

The Sql Query for the above question is as follows:

SELECT Customer_Id, claim_DateTime, claim_Amount
FROM claim x where claim_DateTime >= ALL (SELECT claim_DateTime FROM claim
WHERE Customer_Id = x.Customer_Id AND claim_DateTime > 0);

To demonstrate the result of the above query, I have used mysql Workbench. I have input dummy data into the given columns in the schema claim. The following is the screenshot of the data and the result of the query:

This is the table claim,
The original table contains multiple record claims for customer with ID 400 and 401. The query will return only the latest claim record for each customer. For example, the result displays the latest record for 400, 401 and 20001.

Customer_Id	Claim_DateTime	Claim_Amount	
401	2019-01-01 03:50:23	300	←
400	2019-05-02 04:30:09	3000	←
20001	2017-02-05 02:09:09	2367	
101	2018-02-03 06:04:06	1278	
45	2018-05-02 05:08:40	456	
401	2018-03-05 05:45:45	459	←
400	2019-01-05 03:34:56	567	←
450	2014-03-04 02:56:08	236	
20001	2018-02-05 00:00:00	3490	

The result of the query is,

Result Grid	Filter Rows:	Export:	
Customer_Id	Claim_DateTime	Claim_Amount	
401	2019-01-01 03:50:23	300	←
400	2019-05-02 04:30:09	3000	←
20001	2017-02-05 02:09:09	2367	
101	2018-02-03 06:04:06	1278	
45	2018-05-02 05:08:40	456	
450	2014-03-04 02:56:08	236	

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2.   **Write a query to output the province where customers have the highest average balance.**

customer contact info

account number	postal code	province
283285	M2N2A2	ON
973525	V5A4A6	BC
736823	B6N8M3	NS
160186	T1K4X5	AB
384623	L6A3C5	ON
....		

customer status

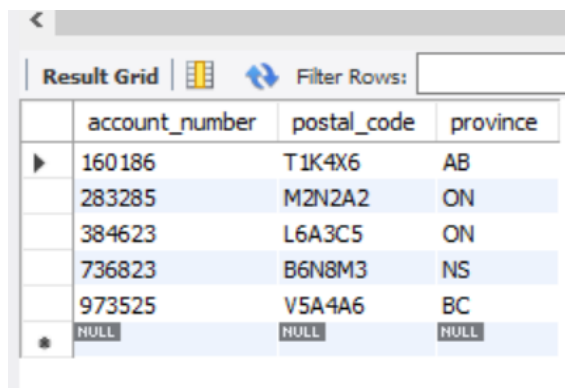| account_number	status	balance	credit_limit
51088	OPEN	3050	5000
28590	OPEN	234	10000
974824	CLOSED	0	8000
869173	OPEN	2007	7500
929023	OPEN	2500	20000
....			

Answer 2:

The sql query for the above question is as follows:

SELECT customer_contact_info.province, AVG(customer_status.balance) AS
Average_Balance
FROM customer_contact_info, customer_status
where customer_status.status='OPEN' AND
customer_contact_info.account_number=customer_status.account_number
GROUP BY customer_contact_info.province
ORDER BY Average_balance DESC
LIMIT 1;

To demonstrate the result of the above query, I have used mysql Workbench. I have input dummy data into the given columns in the schema claim. The following is the screenshot of the data and the result of the query:

The table customer_contact_info is,

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The table customer_status is,

account_number	status	balance	credit_limit
28590	OPEN	234	10000
51088	OPEN	3050	5000
160186	OPEN	3467	8000
283285	OPEN	2367	5000
384623	OPEN	33	8000
736823	OPEN	4567	5000
869173	OPEN	2007	7500
929023	OPEN	2500	20000
973525	OPEN	890	5000
974824	CLOSED	0	8000

To better demonstrate the result of the query, I have added some values in the tables with the same account number. Before seeing the final result of the query, the following is the result showing the average balance amount for each province,

province	Average_Balance
NS	4567.0000
AB	3467.0000
ON	1200.0000
BC	890.0000

The final result is,

province	Average_Balance
NS	4567.0000

So, Nova Scotia has the highest average balance amount according to my dummy values in the table.

3. **Write a query based on 4 tabs to list the names of supervisors for the crew on the flight to Copenhagen (destination= CPH) on March 4, 2013. Note:**
   - **Supervisors live in the same state as the employees they supervise.**
   - **There is one supervisor for each state and job category. Therefore, to find the supervisor for employee, you need to make sure that supervisor's state = employee' state and supervisor's job category = employee's job category.**
   - **Table flight_schedule and payroll_master only contain information for the crew**
   - **Table staff_master contains information for the crew and supervisors**
   - **job_code with the same first 2 characters belong to the same job category, for example, jobcode TA2 and TA3 are under job category TA. Hint: use**

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substring(jobcode ,1,2)=jobcategory

flight_schedule

emp_id	date	destination	flight_number
1269	04MAR2013	YYZ	182
1739	04MAR2013	LHR	219
1478	04MAR2013	LHR	219
1130	04MAR2013	LHR	219
1125	04MAR2013	LHR	219
....			

staff_master

emp_id	last_name	first_name	state	phone
1919	ADAMS	GERALD	CT	203/781-1255
1653	ALEXANDER	SUSAN	CT	203/675-7715
1400	APPLE	TROY	NY	212/586-0808
1350	ARTHUR	BARBARA	NY	718/383-1549
1401	AVERY	JERRY	NJ	201/732-8787
....				

payroll_master

emp id	gender	date of birth	date of hire	job code	salary
1919	M	16SEP1968	07JUN1995	TA2	$48,126
1653	F	19OCT1972	12AUG1998	ME2	$49,151
1400	M	08NOV1975	19OCT1998	ME1	$41,677
1350	F	04SEP1973	01AUG1998	FA3	$46,040
1401	M	16DEC1958	21NOV1993	TA3	$54,351
....					

supervisors

emp id	state	job category
1677	CT	BC
1834	NY	BC
1431	CT	FA
1433	NJ	FA
1983	NY	FA
....		

Answer 3:

Before executing the final query, I first converted the job_code in payroll_master to display the job_category by stripping away the numbers at the end of the job_category. The query and result for that is:

Update payroll_master
Set job_category = SUBSTRING(job_code, 1, 2)

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The query to get the names of supervisors for the crew on the flight to Copenhagen is:

select first_name, last_name
    from staff_master
    where emp_id in
(select emp_id
    from supervisors,
(select job_category, state
    from staff_master,
        payroll_master
    where staff_master.emp_id=payroll_master.emp_id and staff_master.emp_id in
(select emp_id
    from flight_schedule
    where destination='CPH' and date='2013-03-04')) as c
    where supervisors.job_category=c.job_category
        and supervisors.state=c.state);

To demonstrate the result of the above query, I have used mysql Workbench. I have input dummy data into the given columns in the schema claim. The following is the screenshot of the data and the result of the query:

The 4 tables are:

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emp_id	last_name	first_name	state	phone
1234	MAYA	HARRIS	NY	56809080003
1350	ARTHUR	BARBARA	NY	7183831549
1400	APPLE	TROY	NY	2125860808
1401	AVERY	JERRY	NJ	2107328787
1653	ALEXANDER	SUSAN	CT	2036757715
1919	ADAMS	GERALD	CT	2037811255
2905	ALEXANDRA	STERN	NY	4167890345
4567	STEVE	STEIN	CT	2346789056
9005	BOB	STONE	NJ	1256890054
NULL	NULL	NULL	NULL	NULL

emp_id	state	job_category
1278	ME	CT
1431	CT	FA
1433	NJ	FA
1677	CT	BC
1834	NY	BC
1983	NY	FA
3490	TA	NY
5690	ME	NJ
NULL	NULL	NULL