SQL Interview Questions | Set 2

Delta_Ranger

1. **Difference between Locking, Blocking and Deadlocking**
   - **Locking:** Locking occurs when a connection needs access to a piece of data in a database and it locks it for certain use so that no other transaction is able to access it.
   - **Blocking:** Blocking occurs when a transaction tries to acquire an incompatible lock on a resource that another transaction has already locked. The blocked transaction remains blocked until the blocking transaction releases the lock.
   - **Deadlocking:** Deadlocking occurs when two or more transactions have a resource locked, and each transaction requests a lock on the resource that another transaction has already locked. Neither of the transactions here can move forward, as each one is waiting for the other to release the lock.

2. **Delete duplicate data from table so that only first data remains constant**
   Managers

Id	Name	Salary
1	Harpreet	20000
2	Ravi	30000
3	Vinay	10000
4	Ravi	30000
5	Harpreet	20000
6	Vinay	10000
7	Rajeev	40000
8	Vinay	10000
9	Ravi	30000

10	Sanjay	50000

Query:

```
DELETE M1 from managers M1, managers M2 where M2.Name=M1.Name AND M1.Id>M2.Id;
```

Output:

Id	Name	Salary
1	Harpreet	20000
2	Ravi	30000
3	Vinay	10000
7	Rajeev	40000
10	Sanjay	50000

3. **Find the Name of Employees where First Name, Second Name, and Last Name is given in the table. Some Name is missing such as First Name, Second Name and maybe Last Name. Here we will use COALESCE() function which will return first Non Null values. Employees**

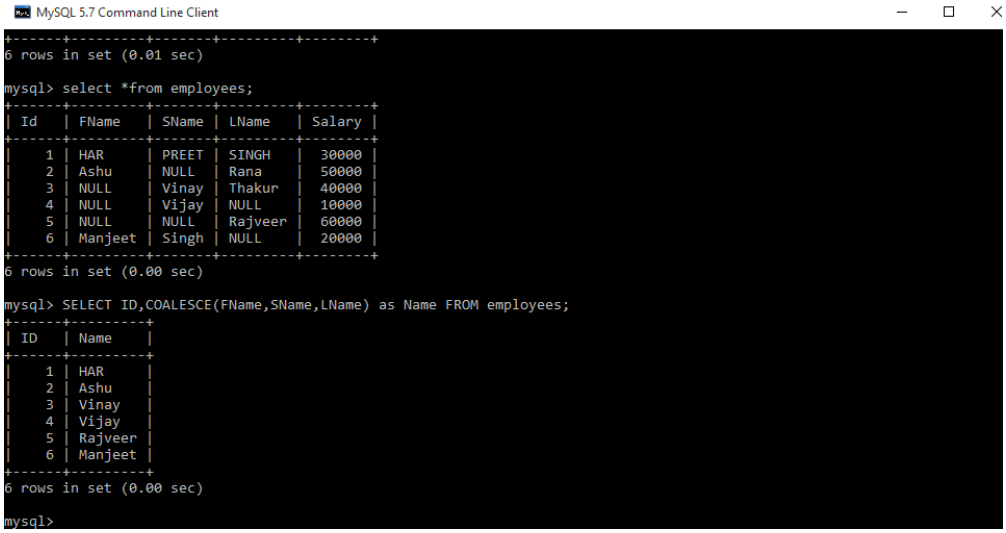
ID	FName	SName	LName	Salary
1	Har	preet	Singh	30000
2	Ashu	NULL	Rana	50000
3	NULL	Vinay	Thakur	40000
4	NULL	Vinay	NULL	10000

ID	FName	SName	LName	Salary
5	NULL	NULL	Rajveer	60000
6	Manjeet	Singh	NULL	60000

Query :

```
SELECT ID, COALESCE(FName, SName, LName) as Name FROM employees;
```

Output:



4. **Find the Employees who were hired in the Last n months**
   Finding the Employees who have been hire in the last n months. Here we get desired output by using TIMESTAMPDIFF() mysql function
   Employees

ID	FName	LName	Gender	Salary	Hiredate
1	Rajveer	Singh	Male	30000	2017/11/05
2	Manveer	Singh	Male	50000	2017/11/05
3	Ashutosh	Kumar	Male	40000	2017/12/12
4	Ankita	Sharma	Female	45000	2017/12/15
5	Vijay	Kumar	Male	50000	2018/01/12
6	Dilip	Yadav	Male	25000	2018/02/26

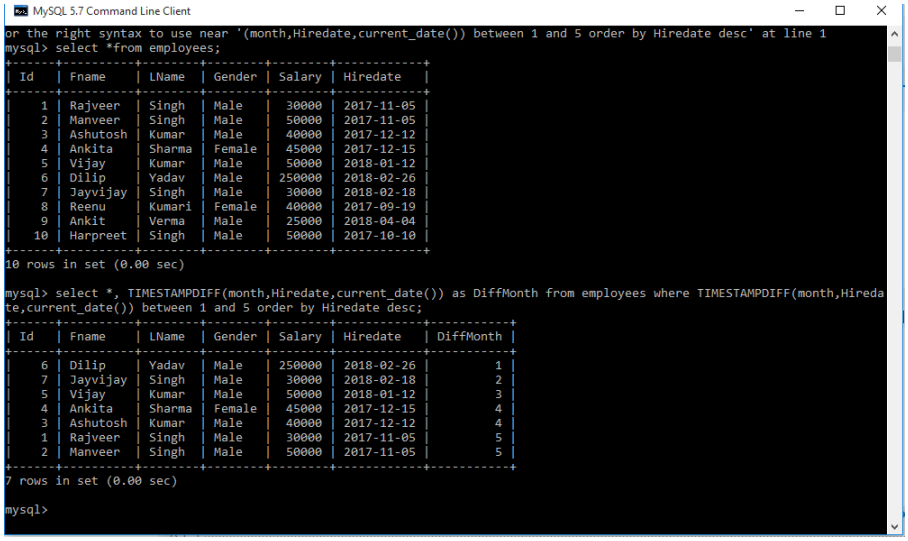
ID	FName	LName	Gender	Salary	Hiredate
7	Jayvijay	Singh	Male	30000	2018/02/18
8	Reenu	Kumari	Female	40000	2017/09/19
9	Ankit	Verma	Male	25000	2018/04/04
10	Harpreet	Singh	Male	50000	2017/10/10

Query:

```
Select *, TIMESTAMPDIFF(month, Hiredate, current_date()) as
DiffMonth from employees
where TIMESTAMPDIFF(month, Hiredate, current_date()) between
1 and 5 order by Hiredate desc;
```

Note: Here in query 1 and 5 are indicates 1 to n months which show the Employees who have hired last 1 to 5 months. In this query, DiffMonth is an extra column for our understanding which shows the Nth months.

Output:



5. **Find the Employees who hired in the Last n days**
   Finding the Employees who have been hired in the last n days. Here we get desired output by using DATEDIFF() mysql function
   Employees

ID	FName	LName	Gender	Salary	Hiredate
1	Rajveer	Singh	Male	30000	2017/11/05

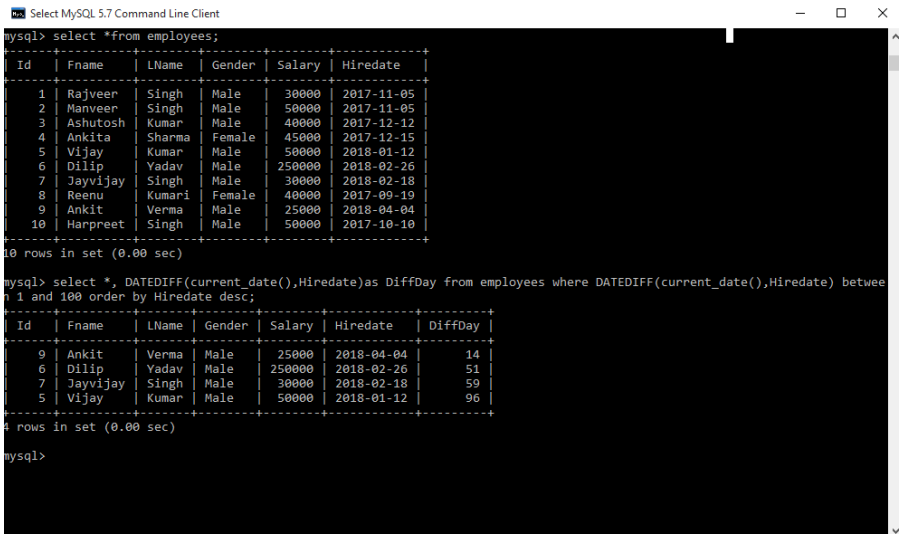
ID	FName	LName	Gender	Salary	Hiredate
2	Manveer	Singh	Male	50000	2017/11/05
3	Ashutosh	Kumar	Male	40000	2017/12/12
4	Ankita	Sharma	Female	45000	2017/12/15
5	Vijay	Kumar	Male	50000	2018/01/12
6	Dilip	Yadav	Male	25000	2018/02/26
7	Jayvijay	Singh	Male	30000	2018/02/18
8	Reenu	Kumari	Female	40000	2017/09/19
9	Ankit	Verma	Male	25000	2018/04/04
10	Harpreet	Singh	Male	50000	2017/10/10

Query:

```
select *, DATEDIFF(current_date(), Hiredate)as
DiffDay from employees
where DATEDIFF(current_date(), Hiredate) between
1 and 100 order by Hiredate desc;
```

Note : Here in query 1 and 100 indicates 1 to n days which show the Employees who have hired last 1 to 100 days. In this query DiffDay is an extra column for our understanding which shows the Nth days.

Output:



6. **Find the Employees who were hired in the Last n years**
   Finding the Employees who have been hired in the last n years. Here we get desired output by using TIMESTAMPDIFF() MySQL function
   Employees

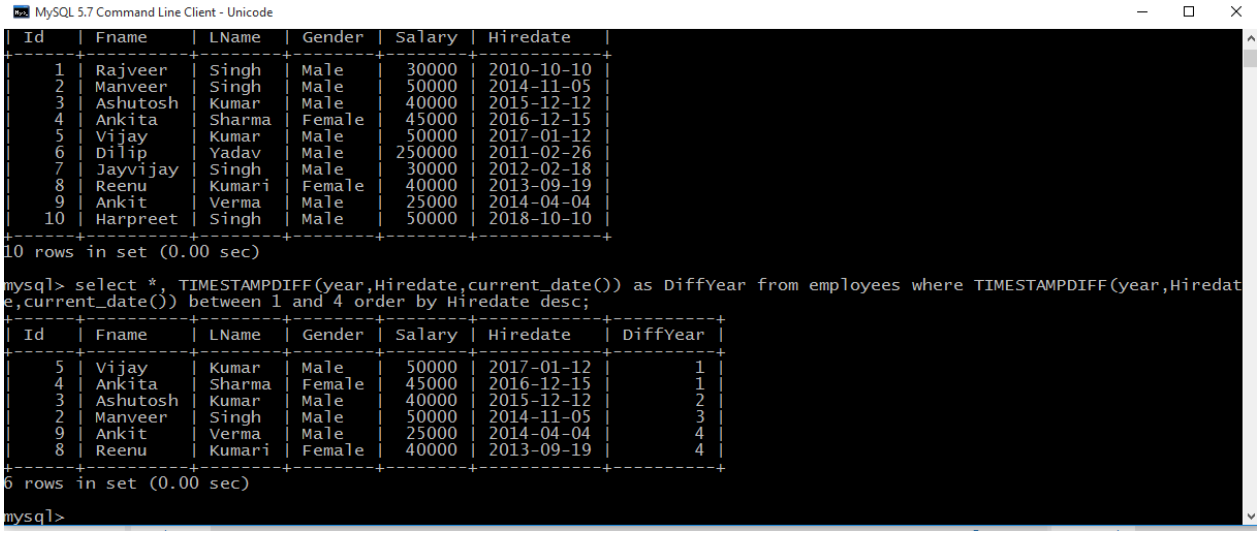
ID	FName	LName	Gender	Salary	Hiredate
1	Rajveer	Singh	Male	30000	2010/11/05
2	Manveer	Singh	Male	50000	2017/11/05
3	Ashutosh	Kumar	Male	40000	2015/12/12
4	Ankita	Sharma	Female	45000	2016/12/15
5	Vijay	Kumar	Male	50000	2017/01/12
6	Dilip	Yadav	Male	25000	2011/02/26
7	Jayvijay	Singh	Male	30000	2012/02/18
8	Reenu	Kumari	Female	40000	2013/09/19
9	Ankit	Verma	Male	25000	2017/04/04
10	Harpreet	Singh	Male	50000	2017/10/10

Query:

```
select *, TIMESTAMPDIFF(year, Hiredate, current_date()) as
DiffYear from employees
where TIMESTAMPDIFF(year, Hiredate, current_date())
between 1 and 4 order by Hiredate desc;
```

Note: Here in query 1 and 4 are indicates 1 to n years which shows the Employees who have hired last 1 to 4 years. In this query, DiffYear is a extra column for our understanding which show the Nth years.

Output:



7. **Select all names that start with a given letter**
   Here we get desired output by using three different queries
   Employees

ID	FName	LName	Gender	Salary	Hiredate
1	Rajveer	Singh	Male	30000	2010/11/05
2	Manveer	Singh	Male	50000	2017/11/05
3	Ashutosh	Kumar	Male	40000	2015/12/12
4	Ankita	Sharma	Female	45000	2016/12/15
5	Vijay	Kumar	Male	50000	2017/01/12
6	Dilip	Yadav	Male	25000	2011/02/26
7	Jayvijay	Singh	Male	30000	2012/02/18
8	Reenu	Kumari	Female	40000	2013/09/19

ID	FName	LName	Gender	Salary	Hiredate
9	Ankit	Verma	Male	25000	2017/04/04
10	Harpreet	Singh	Male	50000	2017/10/10

Query:

```
select *from employees where Fname like 'A%';

select *from employees where left(FName, 1)='A';

select *from employees where substring(FName, 1, 1)='A';
```

Note: Here every query will give same output and the list of Employees who's FName start with letter A.

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12

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