

1. DDL Commands Practice

- Create the Table Department with fields DeptCode, Deptname, Location
- Create the Table Employee with the fields EmpCode, EmpFName, EmpLName, Job, Manager, HireDate, Salary, Commission, DeptCode.
- Alter the table Department set NOTNULL constraint to the column "location" and unique to "DeptName NOTNULL"
- Alter the table Employee and make EmpCode as a primary key
- Alter the table Employee and make EmpCode as a foreign key which refers EmpCode in Department table
- Alter the table Employee change the column Salary data type to Decimal(6,2)
- Alter the table Employee add new column DOB after EmpLName
- Alter the table Employee drop the column DOB
- INSERT the following data in the above tables, this data can use to run queries.

```
INSERT INTO DEPARTMENT VALUES (10, 'FINANCE', 'EDINBURGH'),
                                (20, 'SOFTWARE', 'PADDINGTON'),
                                (30, 'SALES', 'MAIDSTONE'),
                                (40, 'MARKETING', 'DARLINGTON'),
                                (50, 'ADMIN', 'BIRMINGHAM');
```

```
INSERT INTO EMPLOYEE
VALUES (9369, 'TONY', 'STARK', 'SOFTWARE ENGINEER', 7902, '1980-12-17', 2800, 0, 20),
(9499, 'TIM', 'ADOLF', 'SALESMAN', 7698, '1981-02-20', 1600, 300, 30),
(9566, 'KIM', 'JARVIS', 'MANAGER', 7839, '1981-04-02', 3570, 0, 20),
(9654, 'SAM', 'MILES', 'SALESMAN', 7698, '1981-09-28', 1250, 1400, 30),
(9782, 'KEVIN', 'HILL', 'MANAGER', 7839, '1981-06-09', 2940, 0, 10),
(9788, 'CONNIE', 'SMITH', 'ANALYST', 7566, '1982-12-09', 3000, 0, 20),
(9839, 'ALFRED', 'KINSLEY', 'PRESIDENT', 7566, '1981-11-17', 5000, 0, 10),
(9844, 'PAUL', 'TIMOTHY', 'SALESMAN', 7698, '1981-09-08', 1500, 0, 30),
(9876, 'JOHN', 'ASGHAR', 'SOFTWARE ENGINEER', 7788, '1983-01-12', 3100, 0, 20),
(9900, 'ROSE', 'SUMMERS', 'TECHNICAL LEAD', 7698, '1981-12-03', 2950, 0, 20),
(9902, 'ANDREW', 'FAULKNER', 'ANALYST', 7566, '1981-12-03', 3000, 0, 10),
(9934, 'KAREN', 'MATTHEWS', 'SOFTWARE ENGINEER', 7782, '1982-01-23', 3300, 0, 20),
(9591, 'WENDY', 'SHAWN', 'SALESMAN', 7698, '1981-02-22', 500, 0, 30),
(9698, 'BELLA', 'SWAN', 'MANAGER', 7839, '1981-05-01', 3420, 0, 30),
(9777, 'MADII', 'HIMBURY', 'ANALYST', 7839, '1981-05-01', 2000, 200, NULL),
(9860, 'ATHENA', 'WILSON', 'ANALYST', 7839, '1992-06-21', 7000, 100, 50),
(9861, 'JENNIFER', 'HUETTE', 'ANALYST', 7839, '1996-07-01', 5000, 100, 50);
```

Run the following queries on above tables

- Create a query that displays EMPFNAME, EMPLNAME, DEPTCODE, DEPTNAME, LOCATION from EMPLOYEE, and DEPARTMENT tables. Make sure the results are in ascending order based on the EMPFNAME and LOCATION of the department..

```
SELECT E.EMPNAME, E.EMPLNAME, E.DEPTCODE,  
       D.DEPTNAME, D.LOCATION  
FROM EMPLOYEE E, DEPARTMENT D  
WHERE E.DEPTCODE = D.DEPTCODE  
ORDER BY E.EMPNAME, D.LOCATION;
```

2) Display EMPNAME and "TOTAL SALARY" for each employee

```
SELECT EMPNAME, SUM(COMMISSION+SALARY) AS "TOTAL SALARY" FROM  
EMPLOYEE GROUP BY EMPNAME;
```

3) Display MAX and 2nd MAX SALARY from the EMPLOYEE table.

```
SELECT  
(SELECT MAX(SALARY) FROM EMPLOYEE) MAXSALARY,  
(SELECT MAX(SALARY) FROM EMPLOYEE  
WHERE SALARY NOT IN (SELECT MAX(SALARY) FROM EMPLOYEE )) as  
2ND_MAX_SALARY;
```

4) Display the TOTAL SALARY drawn by an analyst working in dept no 20

```
SELECT SUM(SALARY+COMMISSION) AS TOTALSALARY FROM EMPLOYEE  
WHERE JOB = 'ANALYST' AND DEPTCODE = 20;
```

5) Compute the average, minimum, and maximum salaries of the group of employees having the job of ANALYST.

```
SELECT AVG(Salary) AS AVG_SALARY, MIN(Salary) AS MINSALARY, MAX(Salary) AS  
MAXSALARY  
FROM EMPLOYEE WHERE Job = 'ANALYST';
```

2. Create the following Tables and insert records into them and answer the following queries.

salesman				customer				
salesman_id	name	city	commission	customer_id	customer_name	city	grade	salesman_id
5001	James Hoog	New York	0.15	3002	Nick Rimando	New York	100	5001
5002	Nail Knite	Paris	0.13	3005	Graham Zusi	California	200	5002
5005	Pit Alex	London	0.11	3001	Brad Guzan	London		
5006	Mc Lyon	Paris	0.14	3004	Fabian Johns	Paris	300	5006
5003	Lauson Hen		0.12	3007	Brad Davis	New York	200	5001
5007	Paul Adam	Rome	0.13	3009	Geoff Camero	Berlin	100	
				3008	Julian Green	London	300	5002
				3003	Jozy Altidor	Moncow	200	5007

order				
order no	purch amt	order date	customer id	salesman id
70001	150.5	2016-10-05	3005	5002
70009	270.65	2016-09-10	3001	
70002	65.26	2016-10-05	3002	5001
70004	110.5	2016-08-17	3009	
70007	948.5	2016-09-10	3005	5002
70005	2400.6	2016-07-27	3007	5001
70008	5760	2016-09-10	3002	5001
70010	1983.43	2016-10-10	3004	5006
70003	2480.4	2016-10-10	3009	
70012	250.45	2016-06-27	3008	5002
70011	75.29	2016-08-17	3003	5007

- Display name and commission of all the salesmen
- Retrieve salesman id of all salesmen from orders table without any repeats.
- Display names and city of salesman, who belongs to the city of Paris.
- Display all the information for those customers with a grade of 200.
- Display the order number, order date and the purchase amount for order(s) which will be delivered by the salesman with ID 5001.
- Display all the customers, who are either belongs to the city New York or not had a grade above 100.
- Find those salesmen with all information who gets the commission within a range of 0.12 and 0.14.
- Find all those customers with all information whose names are ending with the letter 'n'.
- Find those salesmen with all information whose name containing the 1st character is 'N' and the 4th character is 'l' and rests may be any character.
- Find that customer with all information who does not get any grade except NULL.
- Find the total purchase amount of all orders.
- Find the number of salesman currently listing for all of their customers.
- Find the highest grade for each of the cities of the customers.
- Find the highest purchase amount ordered by the each customer with their ID and highest purchase amount.
- Find the highest purchase amount ordered by the each customer on a particular date with their ID, order date and highest purchase amount.
- Find the highest purchase amount on a date '2012-08-17' for each salesman with their ID.
- Find the highest purchase amount with their customer ID and order date, for only those customers who have the highest purchase amount in a day is more than 2000.
- Write a SQL statement that counts all orders for a date August 17th, 2012.

3. Consider the tables created in Question 2 and answer the following queries

- a) Find the name and city of those customers and salesmen who lives in the same city.
- b) Find the names of all customers along with the salesmen who works for them.
- c) Display all those orders by the customers not located in the same cities where their salesmen live.
- d) Display all the orders issued by the salesman 'Paul Adam' from the orders table.
- e) Display all the orders which values are greater than the average order value for 10th October 2012.
- f) Find all orders attributed to salesmen in Paris.
- g) Extract the data from the orders table for the salesman who earned the maximum commission.
- h) Find the name and ids of all salesmen who had more than one customer
- i) Write a query to find all the salesmen who worked for only one customer.
- j) Write a query to find all the salesmen who worked for only one customer.
- k) Display all the orders that had amounts that were greater than at least one of the orders from September 10th 2012.
- l) display only those customers whose grade are, in fact, higher than every customer in New York.

4. Create the table named “ nobel_win” and insert the following data and answer the queries

YEAR	SUBJECT	WINNER	COUNTRY	CATEGORY
1970	Physics	Hannes Alfven	Sweden	Scientist
1970	Physics	Louis Neel	France	Scientist
1970	Chemistry	Luis Federico Leloir	France	Scientist
1970	Physiology	Ulf von Euler	Sweden	Scientist
1970	Physiology	Bernard Katz	Germany	Scientist
1970	Literature	Aleksandr Solzhenitsyn	Russia	Linguist
1970	Economics	Paul Samuelson	USA	Economist
1970	Physiology	Julius Axelrod	USA	Scientist
1971	Physics	Dennis Gabor	Hungary	Scientist
1971	Chemistry	Gerhard Herzberg	Germany	Scientist
1971	Peace	Willy Brandt	Germany	Chancellor
1971	Literature	Pablo Neruda	Chile	Linguist
1971	Economics	Simon Kuznets	Russia	Economist
1978	Peace	Anwar al-Sadat	Egypt	President
1978	Peace	Menachem Begin	Israel	Prime Minister
1987	Chemistry	Donald J. Cram	USA	Scientist
1987	Chemistry	Jean-Marie Lehn	France	Scientist
1987	Physiology	Susumu Tonegawa	Japan	Scientist
1994	Economics	Reinhard Selten	Germany	Economist
1994	Peace	Yitzhak Rabin	Israel	Prime Minister
1987	Physics	Johannes Georg Bednorz	Germany	Scientist
1987	Literature	Joseph Brodsky	Russia	Linguist
1987	Economics	Robert Solow	USA	Economist
1994	Literature	Kenzaburo Oe	Japan	Linguist

- a) Show the winner of the 1971 prize for Literature.
- b) Show all the details of the winners with first name Louis.
- c) Show all the winners in Physics for 1970 together with the winner of Economics for 1971.
- d) Show all the winners of Nobel prize in the year 1970 except the subject Physiology and Economics.
- e) Find all the details of the Nobel winners for the subject not started with the letter 'P' and arranged the list as the most recent comes first, then by name in order.