Nested query

38. list all employees with sal>smith's sal

mysql> select * from emp where sal > (select sal from emp where ename='SMITH');										
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO			
7499	ALLEN	SALESMAN	7698	1981-02-20	2140.00	300.00	30			
7521	WARD	SALESMAN	7698	1981-02-22	1937.50	500.00	30			
7566	JONES	MANAGER	7839	1981-04-02	3421.25	NULL	20			
7654	MARTIN	SALESMAN	7698	1981-09-28	2837.50	1400.00	30			
7698	BLAKE	MANAGER	7839	1981-05-01	3277.50	NULL	30			
7788	SCOTT	ANALYST	7566	1982-12-09	3450.00	NULL	20			
7844	TURNER	SALESMAN	7698	1981-09-08	1725.00	0.00	30			
7876	ADAMS	CLERK	7788	1983-01-12	1265.00	NULL	20			
7900	JAMES	CLERK	7698	1981-12-03	1092.50	NULL	30			
7902	FORD	ANALYST	7566	1981-12-03	3450.00	NULL	20			
++		+	+	+ -	+	+	+			

39. list all employees who are working in smith's department

```
nysql> select * from emp where deptno = (select deptno from emp where ename='SMITH');
 EMPNO
          ENAME
                   J0B
                              MGR
                                      HIREDATE
                                                     SAL
                                                                COMM
                                                                        DEPTNO
                                                     920.00
3421.25
                               7902
                                       1980-12-17
                                                                            20
20
  7369
          SMITH
                   sr clerk
                                                                NULL
  7566
          JONES
                   MANAGER
                               7839
                                       1981-04-02
                                                                NULL
                                                                            20
  7788
          SCOTT
                   ANALYST
                               7566
                                       1982-12-09
                                                     3450.00
                                                                NULL
  7876
          ADAMS
                   CLERK
                               7788
                                       1983-01-12
                                                     1265.00
                                                                NULL
                                                                            20
          FORD
                   ANALYST
                               7566
                                       1981-12-03
                                                                            20
  7902
                                                     3450.00
                                                                NULL
```

40. list all employees with sal < rajan's sal and salary > revati's sal

41. delete all employees working in alan's department

```
mysql> delete from emp where deptno=(select deptno from (select * from emp) e where ename='ALLEN' );
Query OK, 6 rows affected (0.07 sec)
mysql> select * from emp;
  EMPNO
            ENAME
                                      MGR
                                              HIREDATE
                                                                          COMM
                                                                                   DEPTNO
                                               1980-12-17
   7566
            JONES
                        MANAGER
                                      7839
                                               1981-04-02
                                                              2975.00
                                                                           NULL
                                                                                        20
   7775
                                               2020-01-01
                                                                45.00
                                                                          NULL
            athrava
                        design
                                      NULL
                                                                                     NULL
                                              2020-01-01
   7777
7782
                        design
MANAGER
                                      NULL
                                                                 45.00
                                                                                     NULL
            revati
                                                                          NULL
            CLARK
                                               1981-06-09
                                                              2450.00
3000.00
                                                                                       10
20
                                      7839
                                                                           NULL
            SCOTT
                                      7566
                                               1982-12-09
                        ANALYST
                                                                          NULL
   7788
   7839
            KING
                        PRESIDENT
                                      NULL
                                               1981-11-17
                                                                           NULL
                                                                                        10
                                                               5000.00
   7876
            ADAMS
                        CLERK
                                      7788
                                               1983-01-12
                                                               1100.00
                                                                          NULL
                                                                                        20
   7902
            FORD
                        ANALYST
                                      7566
                                               1981-12-03
                                                              3000.00
                                                                          NULL
                                                                                        20
            MILLER
                                      7782
                                              1982-01-23
                                                              1300.00
                                                                          NULL
   7934
                        CLERK
                                                                                        10
```

42. change salary of Alan to the salary of Miller.

```
mysql> update emp
            set sal=( select sal from (select * from emp)e where ename= 'MILLER')
            where sal=( select sal from(select * from emp)a where ename='Allen');
Query OK, 1 row affected (0.07 sec)
Rows matched: 1 Changed: 1 Warnings: 0
mysql> select * from emp;
  EMPNO
          ENAME
                    JOB
                                MGR
                                        HIREDATE
                                                      SAL
                                                                COMM
                                                                           DEPTNO
   7369
           SMITH
                    sr clerk
                                7902
                                        1980-12-17
                                                       920.00
                                                                    NULL
                                                                                20
                    SALESMAN
                                                       224.25
   7499
           ALLEN
                                7698
                                        1981-02-20
                                                                  300.00
                                                                                30
   7521
           WARD
                    SALESMAN
                                7698
                                        1981-02-22
                                                      1937.50
                                                                  500.00
                                                                                30
   7566
           JONES
                    MANAGER
                                7839
                                        1981-04-02
                                                      3421.25
                                                                    NULL
                                                                                20
   7654
                    SALESMAN
                                7698
                                        1981-09-28
                                                      2837.50
                                                                 1400.00
                                                                                30
           MARTIN
   7698
           BLAKE
                    MANAGER
                                7839
                                        1981-05-01
                                                      3277.50
                                                                    NULL
                                                                                30
   7782
           CLARK
                                7777
                                        1981-06-09
                                                       422.63
                                                                    NULL
                                                                                10
                    manager
                                        1982-12-09
                                                      3450.00
   7788
           SCOTT
                    ANALYST
                                7566
                                                                    NULL
                                                                                20
   7839
                                7777
                                        1981-11-17
                                                                                10
           KING
                    manager
                                                       862.50
                                                                    NULL
                                                                    0.00
   7844
           TURNER
                    SALESMAN
                                7698
                                        1981-09-08
                                                      1725.00
                                                                                30
                                                                    NULL
   7876
           ADAMS
                    CLERK
                                7788
                                        1983-01-12
                                                      1265.00
                                                                                20
                                7698
           JAMES
                                        1981-12-03
                                                                    NULL
   7900
                    CLERK
                                                      1092.50
                                                                                30
   7902
           FORD
                    ANALYST
                                7566
                                        1981-12-03
                                                      3450.00
                                                                    NULL
                                                                                20
   7934
          MILLER
                                7777
                                        1982-01-23
                                                       224.25
                                                                    NULL
                                                                                10
                    manager
14 rows in set (0.00 sec)
```

43. change salary of all emplees who working in Wall's (Ward)department to the salary of Miller.

```
mysql> update emp
    -> set sal=(select sal from(select * from emp) e where ename='MILLER')
    -> where deptno=(select deptno from(select * from emp)e where ename='WARD');
Query OK, 6 rows affected (0.07 sec)
Rows matched: 6 Changed: 6 Warnings: 0
mysql> select * from emp where deptno=30;
 EMPNO
          ENAME
                   J0B
                               MGR
                                       HIREDATE
                                                    SAL
                                                               COMM
                                                                         DEPTNO
                    SALESMAN
   7499
          ALLEN
                               7698
                                       1981-02-20
                                                    1300.00
                                                                300.00
                                                                              30
                    SALESMAN
                               7698
                                       1981-02-22
                                                    1300.00
                                                                500.00
   7521
          WARD
                                                                              30
                                                               1400.00
                    SALESMAN
                               7698
                                       1981-09-28
   7654
          MARTIN
                                                    1300.00
                                                                              30
                    MANAGER
   7698
          BLAKE
                               7839
                                       1981-05-01
                                                    1300.00
                                                                  NULL
                                                                              30
   7844
          TURNER
                    SALESMAN
                               7698
                                       1981-09-08
                                                    1300.00
                                                                  0.00
                                                                              30
                               7698
   7900
          JAMES
                   CLERK
                                       1981-12-03
                                                    1300.00
                                                                  NULL
                                                                              30
  rows in set (0.00 sec)
```

44. list all employees with salary > either Smith's salary or alan's sal (questin why we use aggeregate func max(sal))

```
ERROR 1242 (21000): Subquery returns more than 1 row mysql> select * from emp where sal > (select max(sal) from emp where ename in ('allen','smith'));
  EMPNO
           ENAME
                      JOB
                                 I MGR
                                           HIREDATE
                                                          SAL
                                                                      COMM
                                                                                  DEPTNO
           WARD
                                           1981-02-22
                                                                        500.00
                      SALESMAN
                                                           1937.50
                                                                                       30
   7521
                                   7698
                                                                                       20
                                                           3421.25
2837.50
                                                                          NULL
   7566
            JONES
                      MANAGER
                                   7839
                                           1981-04-02
   7654
                      SALESMAN
                                           1981-09-28
                                                                       1400.00
                                                                                       30
           MARTIN
                                   7698
           BLAKE
                      MANAGER
                                            1981-05-01
   7698
                                   7839
                                                           3277.50
                                                                          NULL
                                                                                       30
                                            1982-12-09
                                                                                       20
   7788
            SCOTT
                      ANALYST
                                   7566
                                                           3450.00
                                                                          NULL
   7844
            TURNER
                      SALESMAN
                                   7698
                                            1981-09-08
                                                           1725.00
                                                                          0.00
                                                                                       30
   7876
            ADAMS
                      CLERK
                                   7788
                                            1983-01-12
                                                           1265.00
                                                                          NULL
                                                                                       20
   7900
            JAMES
                      CLERK
                                   7698
                                            1981-12-03
                                                           1092.50
                                                                          NULL
                                                                                       30
   7902
           FORD
                      ANALYST
                                   7566
                                            1981-12-03
                                                           3450.00
                                                                          NULL
                                                                                       20
  rows in set (0.00 sec)
```

45. list all employees who earn more than average sal of dept 10

	RROR 1093 (HY000): You can't specify target table 'emp' for update in FROM clause ysql> select * from emp where sal > (select avg(sal) from emp where deptno=10);											
EMPNO	ENAME	JOB	MGR	HIREDATE	SAL	COMM	DEPTNO					
7369	SMITH	sr clerk	7902	1980-12-17	920.00	NULL	20					
7521	WARD	SALESMAN	7698	1981-02-22	1937.50	500.00	30					
7566	JONES	MANAGER	7839	1981-04-02	3421.25	NULL	20					
7654	MARTIN	SALESMAN	7698	1981-09-28	2837.50	1400.00	30					
7788	SC0TT	ANALYST	7566	1982-12-09	3450.00	NULL	20					
7839	KING	manager	7777	1981-11-17	862.50	NULL	10					
7844	TURNER	SALESMAN	7698	1981-09-08	1725.00	0.00	30					
7876	ADAMS	CLERK	7788	1983-01-12	1265.00	NULL	20					
7900	JAMES	CLERK	7698	1981-12-03	1092.50	NULL	30					
7902	FORD	ANALYST	7566	1981-12-03	3450.00	NULL	20					
 9 rows 1	⊦ in set (0.	 .00 sec)	·	 	+	H	H					

46. list all employees who earn more than average sal of Alan's department

```
nysql> select * from emp where sal > (select avg(sal) from emp where deptno=(select deptno from emp where ename='allen'));
 EMPNO | ENAME
                      | JOB
                                      MGR
                                                  HIREDATE
                                                                      SAL
                                                                                    COMM
                                                                                                 DEPTNO
                                                   1981-02-22
                                                                      1937.50
3421.25
2837.50
   7521
             WARD
                         SALESMAN
                                                                                      500.00
                                                                                                        30
30
20
30
30
20
                                                   1981-04-02
1981-09-28
1982-12-09
1981-09-08
  7566
7654
            JONES
MARTIN
                         MANAGER
SALESMAN
                                         7839
7698
                                                                                    1400.00
NULL
0.00
                                                                      3450.00
1725.00
3450.00
            SCOTT
TURNER
                         ANALYST
SALESMAN
                                         7566
7698
            FORD
                         ANALYST
        in set (0.00 sec)
```

47. list all employees who are working in purchase (research)department

```
mysql> select * from emp where deptno=(select deptno from dept where dname='RESEARCH');
                                                                       DEPTNO
                   JOB
                                      HIREDATE
 EMPNO |
          ENAME
                               MGR
                                                    SAL
                                                               COMM |
                                       1980-12-17
                                                               NULL
                                                                           20
20
20
   7369
                   sr clerk
                                                      920.00
   7566
          JONES
                   MANAGER
                               7839
                                       1981-04-02
                                                     3421.25
                                                               NULL
                               7566
   7788
          SC0TT
                   ANALYST
                                      1982-12-09
                                                     3450.00
                                                               NULL
   7876
          ADAMS
                   CLERK
                               7788
                                       1983-01-12
                                                     1265.00
                                                               NULL
                                                                           20
                               7566
   7902
          FORD
                   ANALYST
                                      1981-12-03
                                                     3450.00
                                                               NULL
                                                                           20
  rows in set (0.00 sec)
```