**Second Highest Salary**

SELECT **Max**(salary) AS SecondHighestSalary   
FROM   employee e1   
WHERE  salary NOT IN (SELECT **Max**(salary)   
                      FROM   employee e2)

**Nth Highest Salary**

SELECT salary   
FROM   employee e1   
WHERE  ( n - 1 ) = (SELECT **Count**(DISTINCT ( e2.salary ))   
                    FROM   employee e2   
                    WHERE  e2.salary > e1.salary)

**Rank without Rank function**

SELECT score,   
       rank   
FROM   (SELECT score,   
               (SELECT **Count**(DISTINCT score) + 1   
                FROM   scores s2   
                WHERE  s2.score > s1.score) rank   
        FROM   scores s1) t   
ORDER  BY rank

**Consecutive Numbers**

SELECT DISTINCT l1.num AS ConsecutiveNums   
FROM   logs l1,   
       logs l2,   
       logs l3   
WHERE  l1.id = l2.id - 1   
       AND l2.id = l3.id - 1   
       AND l1.num = l2.num   
       AND l2.num = l3.num

**Department Highest Salary**

SELECT d.name Department,   
       e.name Employee,   
       e.salary   
FROM   employee e,   
       (SELECT **Max**(e.salary) m\_sal,   
               e.departmentid   
        FROM   employee e   
        GROUP  BY e.departmentid) md,   
       department d   
WHERE  e.departmentid = md.departmentid   
       AND e.salary = md.m\_sal   
       AND d.id = e.departmentid

**Top 3 Salary for each department**

SET @row\_number := 0;   
  
SET @dept\_name := '';   
  
SELECT department,   
       employee,   
       salary   
FROM   (SELECT department,   
               employee,   
               salary,   
               @row\_number := CASE   
                                WHEN @dept\_name = department THEN   
                                @row\_number + 1   
                                ELSE 1   
                              end AS row\_number,   
               @dept\_name := department   
        FROM   (SELECT d.name   Department,   
                       e.name   Employee,   
                       e.salary Salary   
                FROM   employee e,   
                       department d   
                WHERE  e.departmentid = d.id   
                ORDER  BY e.departmentid,   
                          e.salary DESC) t) t1   
WHERE  row\_number <= 3;   
  
*-- Another approach*   
SELECT d.name   Department,   
       e.name   Employee,   
       e.salary Salary   
FROM   employee e,   
       department d   
WHERE  e.departmentid = d.id   
       AND 3 > (SELECT **Count**(DISTINCT e2.salary)   
                FROM   employee e2   
                WHERE  e2.departmentid = e.departmentid   
                       AND e2.salary > e.salary)

**Delete Duplicate Emails**

DELETE FROM person   
WHERE  id NOT IN (SELECT **Min**(id)   
                  FROM   (SELECT \*   
                          FROM   person) AS p   
                  GROUP  BY email);   
  
*-- check this approach*   
DELETE FROM person p   
WHERE  p.id IN (SELECT p2.id   
                FROM   person p2   
                WHERE  p2.email = p.email   
                       AND p2.id > p.id)

**Median Employee Salary**

SET @row\_number := 0;   
SET @company := '';   
  
SELECT id,   
       company,   
       salary   
FROM   (SELECT id,   
               company,   
               @row\_number := CASE   
                                WHEN @company = e.company THEN @row\_number + 1   
                                ELSE 1   
                              end              AS rn,   
               @company := e.company,   
               salary,   
               (SELECT **Count**(1)   
                FROM   employee e2   
                WHERE  e2.company = e.company) total\_emp   
        FROM   employee e   
        ORDER  BY company,   
                  salary) t1   
WHERE  ( **MOD**(total\_emp, 2) = 0   
         AND ( rn = total\_emp / 2   
                OR rn = total\_emp / 2 + 1 ) )   
        OR ( **MOD**(total\_emp, 2) <> 0   
             AND ( rn = **Ceil**(total\_emp / 2) ) )

**Student – Department count**

SELECT dept\_name,   
       student\_number   
FROM   (SELECT dept\_name,   
               **Count**(s.student\_id) student\_number   
        FROM   department d   
               LEFT JOIN student s   
                      ON d.dept\_id = s.dept\_id   
        GROUP  BY d.dept\_name) t1   
ORDER  BY student\_number DESC,   
          dept\_name

**Cumulative Salary of Employee**

SELECT id,   
       month,   
       cum\_salary salary   
FROM   (SELECT id,   
               month,   
               salary,   
               (SELECT **Sum**(salary)   
                FROM   employee e2   
                WHERE  e2.id = e11.id   
                       AND e2.month <= e11.month) cum\_salary   
        FROM   (SELECT id,   
                       month,   
                       salary,   
                       (SELECT **Max**(month)   
                        FROM   employee e3   
                        WHERE  e3.id = e1.id) max\_month   
                FROM   employee e1) e11   
        WHERE  month <> max\_month) t3   
ORDER  BY id,   
          month DESC