

```
SQL> --Q1
SQL> SELECT name, startYear FROM (SELECT * FROM professor WHERE empId IN( SELECT hod FROM department))
2 MINUS
3 SELECT name, startYear FROM (SELECT * FROM professor WHERE empId IN( SELECT hod FROM department))
4 WHERE startYear>any(SELECT startYear FROM (SELECT * FROM professor WHERE empId IN( SELECT hod FROM department)))
5 ORDER BY startYear;
```

no rows selected

```
SQL> --Q2
SQL> SELECT cname FROM
2 (SELECT * FROM course WHERE courseId IN
3 (SELECT courseId FROM teaching WHERE empId IN
4 (SELECT empId FROM
5 (SELECT * FROM professor WHERE deptNo IN (SELECT deptId FROM department WHERE name = 'Biology')))))
6 MINUS
7 SELECT cname FROM
8 (SELECT * FROM course WHERE courseId IN
9 (SELECT courseId FROM teaching WHERE empId IN
10 (SELECT empId FROM
11 (SELECT * FROM professor WHERE deptNo IN (SELECT deptId FROM department WHERE name = 'Biology')) WHERE startYear > ANY
12 (SELECT startYear FROM professor WHERE deptNo IN (SELECT deptId FROM department WHERE name = 'Biology'))));
```

no rows selected

```
SQL>
SQL> --Q3
SQL> CREATE TABLE course_temp AS
2 SELECT * FROM course INNER JOIN department ON course.deptNo = department.deptId;
CREATE TABLE course_temp AS
3
ERROR at line 1:
ORA-00955: name is already used by an existing object
```

```
SQL> SELECT Cname,name FROM course_temp WHERE courseId in
2 (SELECT courseId FROM (SELECT courseId, count(prereqcourse) AS abc FROM prerequisite WHERE courseId in
3 (SELECT courseId FROM course WHERE deptNo in (SELECT deptNo FROM course GROUP by deptNo)) group by courseId) WHERE abc in (SELECT max(abc)
4 FROM(SELECT courseId, count(prereqcourse) AS abc FROM prerequisite WHERE courseId in
5 (SELECT courseId FROM course WHERE deptNo = 2) group by courseId) ));
```



ORA-00955: name is already used by an existing object

```
SQL> SELECT Cname,name FROM course_temp WHERE courseId in
  2  (SELECT courseId FROM (SELECT courseId, count(prereqcourse) AS abc FROM prerequisite WHERE courseId in
  3  (SELECT courseId FROM course WHERE deptNo in (SELECT deptNo FROM course GROUP by deptNo)) group by courseId) WHERE abc in (SELECT max(abc)
  4  FROM(SELECT courseId, count(prereqcourse) AS abc FROM prerequisite WHERE courseId in
  5  (SELECT courseId FROM course WHERE deptNo = 2) group by courseId) ));
```

CNAME	NAME
Rock and Roll	Marketing
Ponzi Schemes	Civil Eng.
Graph Theory	Psychology
Operating Systems	Psychology
Game Programming	Comp. Sci.
Embedded Systems	Finance
Immunology	Biology
Differential Geometry	Statistics
International Practicum	History
Electron Microscopy	Mech. Eng.
Groups and Rings	Civil Eng.

CNAME	NAME
Elastic Structures	English
International Practicum	Comp. Sci.
Game Programming	Cybernetics
World History	Athletics

15 rows selected.

```
SQL>
SQL> --Q4
SQL> SELECT empId,avg(cnt) FROM teaching INNER JOIN
  2  (SELECT courseId AS cId,count(rollNo) AS cnt FROM (
  3  SELECT teaching.courseId, teaching.empId, enrollment.rollNo, teaching.YEAR FROM teaching INNER JOIN enrollment ON teaching.courseId =enrollment.courseId WHERE teachin
  4  g.year = any(2002,2003,2004)) group by courseId) ON teaching.courseId=cId
  4  group by empId;
```

EMPID	AVG(CNT)
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```

3 SELECT teaching.courseId, teaching.empId, enrollment.rollNo, teaching.YEAR FROM teaching INNER JOIN enrollment ON teaching.courseId =enrollment.courseId WHERE teachin
g.year = any(2002,2003,2004)) group by courseId) ON teaching.courseId=cId
4 group by empId;

```

EMPID	AVG(CNT)
99052	22.5
22591	23
28400	26
41930	16.5
43779	18
73623	22
25946	23
77346	22
79081	21.25
80759	22
90643	12

EMPID	AVG(CNT)
28097	22
34175	23.3333333
74420	27
3199	21
36897	23.5
42782	19
6569	20.3333333

18 rows selected.

SQL>

SQL> --Q5

```

SQL> SELECT courseId,count(rollNo) FROM enrollment WHERE YEAR=2004 and sem ='even' and courseId in
2 (SELECT courseId FROM course WHERE deptNo in (SELECT deptId FROM department WHERE name='Comp. Sci.') ) group by courseId;

```

COURSEID	COUNT(ROLLNO)
747	24
571	22

SQL>