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SQL> -- Question 1
SQL> -- Find the senior most hod in institute (Without using Join).
SQL> SELECT * FROM professor
  2  WHERE empid IN (SELECT hod FROM department)
  3  AND startyear = (SELECT MIN(startyear) FROM professor WHERE empid IN (SELECT hod FROM department));

```

EMPID	NAME	SEX	STARTYEAR	DEPTNO	PHONE
63395	McKinnon	male	1991	13	334718535

```

SQL>
SQL> -- Question 2
SQL> -- Find the course taught by senior most professor in Biology department
SQL> SELECT * FROM course WHERE courseid IN (
  2  SELECT courseid FROM teaching
  3  WHERE empid IN (
  4  SELECT empid FROM professor
  5  WHERE deptno IN (SELECT deptid FROM department WHERE name = 'Biology')
  6  AND startyear = (
  7  SELECT MIN(startyear) FROM professor WHERE deptno IN (
  8  SELECT deptid FROM department WHERE name = 'Biology'
  9  )
 10  )
 11  )
 12 );

```

COURSEID	CNAME	CREDITS	DEPTNO
702	Arabic	3	2

```

SQL>
SQL> -- Question 3
SQL> -- Report department wise, the course that has maximum number of prerequisite
SQL> SELECT c.cname, d.name FROM course c INNER JOIN department d ON c.deptno = d.deptid
  2 WHERE c.courseid in (
  3     SELECT courseid FROM (
  4         SELECT courseid, count(prereqcourse) cnt FROM prerequisite
  5         WHERE courseid in (SELECT courseId FROM course WHERE deptNo in (
  6             SELECT deptNo FROM course GROUP BY deptno
  7         ))
  8         GROUP BY courseid
  9     )
 10 WHERE cnt in (
 11     SELECT max(cnt) FROM (
 12         SELECT courseId, count(prereqcourse) AS cnt FROM prerequisite WHERE courseId in (
 13             SELECT courseId FROM course WHERE deptNo = 2
 14         ) group by courseId
 15     )
 16 )
 17 );

```

CNAME	NAME
Groups and Rings	Civil Eng.
Ponzi Schemes	Civil Eng.
Embedded Systems	Finance
Game Programming	Cybernetics
World History	Athletics
Differential Geometry	Statistics
Graph Theory	Psychology

Operating Systems	Psychology
Immunology	Biology
Electron Microscopy	Mech. Eng.
International Practicum	History
Rock and Roll	Marketing
Elastic Structures	English
Game Programming	Comp. Sci.
International Practicum	Comp. Sci.

15 rows selected.

SQL>

SQL>

SQL> -- Question 4

SQL> -- Report faculty-wise average number of enrollments for course taught in all the semesters during 2002-2004

```
SQL> SELECT empid, AVG(cnt) FROM teaching INNER JOIN (  
  2      SELECT courseid AS cid, COUNT(rollno) AS cnt FROM (  
  3          SELECT t.courseid, t.empid, e.rollno, t.year FROM  
  4              teaching t INNER JOIN enrollment e ON t.courseid = e.courseid  
  5              WHERE t.year IN (2002, 2003, 2004)  
  6      ) GROUP BY courseid  
  7 ) ON teaching.courseid = cid 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
28097      22
34175  23.3333333
74420      27
3199       21
36897     23.5
42782      19
6569  20.3333333
```

18 rows selected.

SQL>

SQL> -- Question 5

SQL> -- What are the total enrollments in the course of the comp. sci. department in Even 2004.

SQL> SELECT courseid, COUNT(courseid) FROM enrollment WHERE

2 courseid IN (SELECT courseid FROM course WHERE deptno = (SELECT deptid FROM department WHERE name='Comp. Sci.'))

3 AND sem = 'even' AND year = 2004

4 GROUP BY courseid;

COURSEID	COUNT(COURSEID)
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747	24
571	22

SQL> |