







```
6 #4.a
7 • select distinct course_id
8     from course natural join section
9     where section.course_id=course.course_id
10         and (section.semester='Fall' and section.year=2009)
11         or (section.semester='Spring' and section.year=2010);
12 #4.b
```

Result Grid  Filter Rows: Export:  Wrap Cell Content: 

#	course_id	
1	CS-101	
2	CS-315	
3	CS-319	
4	CS-347	
5	FIN-201	
6	HIS-351	
7	MU-199	
8	PHY-101	

```
12 #4.b
13 • select name, salary
14     from instructor
15     where salary=(select max(salary) from instructor);
```

Result Grid  Filter Rows: Export:  Wrap Cell Content: 

#	name	salary
1	Einstein	95000.00

```

16 #4.c
17 • select dept_name, avg(salary)
18     from instructor
19     group by dept_name
20     having avg(salary)>42000;
21 #4.d

```

Result Grid   Filter Rows: Export:  Wrap Cell Content: 

#	dept_name	avg(salary)	
1	Biology	72000.000000	
2	Comp. Sci.	77333.333333	
3	Elec. Eng.	80000.000000	
4	Finance	85000.000000	
5	History	61000.000000	
6	Physics	91000.000000	

```

21 #4.d
22 • select dept_name, max(salary)
23     from instructor
24     group by dept_name;
25 #4.e

```

Result Grid   Filter Rows: Export:  Wrap Cell Content: 

#	dept_name	max(salary)	
1	Biology	72000.00	
2	Comp. Sci.	92000.00	
3	Elec. Eng.	80000.00	
4	Finance	90000.00	
5	History	62000.00	
6	Music	40000.00	
7	Physics	95000.00	

```

25 #4.e
26 • select distinct student.name
27     from student natural join takes
28     where (course_id like 'CS%');
29 #4.f Find the enrollment of each section that was offered

```

Result Grid Filter Rows: Export: Wrap Cell Content:

#	name
1	Zhang
2	Shankar
3	Levy
4	Williams
5	Brown
6	Bourikas

```

29 #4.f Find the enrollment of each section that was offered in Spring 2009.
30 • select course_id, sec_id, semester, year, count(ID) as enrollment
31     from takes natural join student
32     where year=2009 and semester='Spring'
33     group by course_id, sec_id, semester, year;
34 #4.g unsure of the wording on this question??? Find the maximum enrollment, across all sections, in Spring 2009.
35 • select max(T.enrollment)
36     from
37     (select course_id, sec_id, semester, year, count(ID) enrollment

```

Result Grid Filter Rows: Export: Wrap Cell Content:

#	course_id	sec_id	semester	year	enrollment
1	CS-190	2	Spring	2009	2
2	EE-181	1	Spring	2009	1

```

34 #4.g unsure of the wording on this question??? Find the maximum enrollment, across all sections, in Spring 2009.
35 • select max(T.enrollment)
36     from
37     (select course_id, sec_id, semester, year, count(ID) enrollment
38     from takes natural join student
39     where year=2009 and semester='Spring'
40     group by course_id, sec_id, semester, year) T;
41 #4.h delete all courses that have never been offered (don't occur in the section relation)

```

Result Grid Filter Rows: Export: Wrap Cell Content:

#	max(T.enrollment)
1	2

```

41 #4.h - delete all courses that have never been offered (don't occur in the section relation)
42 • delete
43 from course
44 → where course_id not in
45     (select course_id
46      from section);
47
48
49 • delete
50     from course
51     where course_id =(select *
52                       from (select course.course_id
53                             from section right join course
54                             on section.course_id=course.course_id
55                             where section.course_id is null) as T);
56
57
58
59 • select *
60 from course;
61
62
63
64
65
66

```

Result Grid   Filter Rows: 

Edit:    Export/Import:   Wrap Cell Content: 

#	course_id	title	dept_name	credits	
1	BIO-101	Intro. to Biology	Biology	4	
2	BIO-301	Genetics	Biology	4	
3	CS-101	Intro. to Computer Science	Comp. Sci.	4	
4	CS-190	Game Design	Comp. Sci.	4	
5	CS-315	Robotics	Comp. Sci.	3	
6	CS-319	Image Processing	Comp. Sci.	3	
7	CS-347	Database System Concepts	Comp. Sci.	3	
8	EE-181	Intro. to Digital Systems	Elec. Eng.	3	
9	FIN-201	Investment Banking	Finance	3	
10	HIS-351	World History	History	3	
11	MU-199	Music Video Production	Music	3	
12	PHY-101	Physical Principles	Physics	4	
*	NULL	NULL	NULL	NULL	