

## DATABASE MANAGEMENT SYSTEMS ASSIGNMENT-7

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```
MySQL localhost:3306 ssl institute SQL > create table Employee(
    -> Eid varchar(4),
    -> Salary int,
    -> Gender varchar(2),
    -> dept_num int)
    -> ;
Query OK, 0 rows affected (0.0428 sec)
MySQL localhost:3306 ssl institute SQL > show tables;
+-----+
| Tables_in_institute |
+-----+
| accounts             |
| course               |
| department           |
| employee             |
| instructor           |
| section              |
| student              |
| table1               |
| table2               |
| teachers              |
+-----+
10 rows in set (0.0015 sec)
MySQL localhost:3306 ssl institute SQL > insert into employee
    -> values
    -> ('E1', 8000, 'M', 4),
    -> ('E2', 7000, 'F', 4),
    -> ('E3', 9000, 'M', 5),
    -> ('E4', 6000, 'M', 3),
    -> ('E5', 7000, 'F', 5),
    -> ('E6', 5000, 'M', 3);
Query OK, 6 rows affected (0.0076 sec)
Records: 6  Duplicates: 0  Warnings: 0
```

Question1

```
select Eid from employee
order by Salary
```

```
desc
limit 1;
```

```
MySQL localhost:3306 ssl institute SQL > select Eid from employee
-> order by Salary
-> desc
-> limit 1;

+-----+
| Eid |
+-----+
| E3 |
+-----+
1 row in set (0.0005 sec)
```

## Question 2

```
select dept_num, Salary, Eid
from employee
group by dept_name
order by Salary
desc;
```

```
MySQL localhost:3306 ssl institute SQL > select dept_num, Salary, Eid
-> from employee
-> group by dept_num
-> order by Salary
-> desc;

+-----+-----+-----+
| dept_num | Salary | Eid |
+-----+-----+-----+
| 5 | 9000 | E3 |
| 4 | 8000 | E1 |
| 3 | 6000 | E4 |
+-----+-----+-----+
3 rows in set (0.0006 sec)
```

## Question 3

```

MySQL localhost:3306 ssl institute SQL > select dept_num, avg(Salary)
-> as fem_avg_sal
-> from employee
-> where Gender = 'F'
-> group by dept_num;

+-----+-----+
| dept_num | fem_avg_sal |
+-----+-----+
|      4 | 7000.0000 |
|      5 | 7000.0000 |
+-----+-----+
2 rows in set (0.0005 sec)

MySQL localhost:3306 ssl institute SQL > select avg(Salary) as male_avg
-> from employee
-> where Gender = 'M'
-> ;

+-----+
| male_avg |
+-----+
| 7000.0000 |
+-----+
1 row in set (0.0004 sec)

select t1.dept_name, t1.fem_avg_sal
from
(select dept_num, avg(Salary) as fem_avg_sal from employee where Gender =
'F'
group by dept_num) t1
inner join
(select avg(Salary) as male_avg from employee where Gender = 'M') t2
on t1.fem_avg_sal > t2.male_avg;

MySQL localhost:3306 ssl institute SQL > select t1.dept_num, t1.fem_avg_sal
-> from
-> (select dept_num, avg(Salary) as fem_avg_sal from employee where Gender = 'F' group by dept_num) t1
-> inner join
-> (select avg(Salary) as male_avg from employee where Gender = 'M') t2
-> on t1.fem_avg_sal > t2.male_avg;

Empty set (0.0005 sec)
MySQL localhost:3306 ssl institute SQL >

```

#### Question 4

```

select Catalog.Part_id from
Catalog inner join Supplier
on Supplier.Supplier_id = Catalog.Supplier_id
where Supplier.rating > 10

```

```
group by Supplier.Supplier_id;
```

Question 5

ans a)

```
MySQL localhost:3306 ssl institute SQL > select course.course_id, course.title,
-> section.semester, section.year
-> from section left join course
-> on section.course_id = course.course_id
-> where (semester = 'Fall' and year = 2009)
-> or (semester = 'Spring' and year = 2010);
```

course_id	title	semester	year
CS-101	Intro. to Computer Science	Fall	2009
CS-101	Intro. to Computer Science	Spring	2010
CS-315	Robotics	Spring	2010
CS-319	Image Processing	Spring	2010
CS-319	Image Processing	Spring	2010
CS-347	Database System Concepts	Fall	2009
FIN-201	Investment Banking	Spring	2010
HIS-351	World History	Spring	2010
MU-199	Music Video Production	Spring	2010
PHY-101	Physical Principles	Fall	2009

10 rows in set (0.0008 sec)

ans b)

```
MySQL localhost:3306 ssl institute SQL > select * from section
-> where course_id not in
-> (select course_id from section
-> where semester = 'Spring' and year = 2010)
-> and semester = 'Fall' and year = 2009;
```

course_id	sec_id	semester	year	building	room_number	time_slot_id
CS-347	1	Fall	2009	Taylor	3128	A
PHY-101	1	Fall	2009	Watson	100	A

2 rows in set (0.0009 sec)

ans c)

```
MySQL localhost:3306 ssl institute SQL > select name, monthly_sal
-> from instructor where monthly_sal >
-> (select min(monthly_sal) as min_phy_wage
-> from instructor where dept_name = 'Physics');

+-----+-----+
| name   | monthly_sal |
+-----+-----+
| Einstein | 95000      |
| Wu      | 90000      |
| Brandt  | 92000      |
+-----+-----+
3 rows in set (0.0006 sec)
```

ans d)

```
MySQL localhost:3306 ssl institute SQL >
MySQL localhost:3306 ssl institute SQL >
MySQL localhost:3306 ssl institute SQL > select t1.dept_name, t1.avg_dept_sal from
-> (select dept_name, avg(monthly_sal) as avg_dept_sal
-> from instructor group by dept_name) t1
-> inner join
-> (select avg(monthly_sal) as avg_sal
-> from instructor) t2
-> on
-> (t1.avg_dept_sal > t2.avg_sal);

+-----+-----+
| dept_name | avg_dept_sal |
+-----+-----+
| Physics   | 91000.0000   |
| Finance   | 85000.0000   |
| Comp. Sci. | 77333.3333   |
| Elec. Eng. | 80000.0000   |
+-----+-----+
4 rows in set (0.0005 sec)
```

ans e)

```
MySQL localhost:3306 ssl institute SQL > select instructor.id, name, COUNT(sec_id) as num_sections
-> from
-> instructor left join teachers
-> on instructor.id = teachers.id
-> group by instructor.id;

+-----+-----+-----+
| id    | name    | num_sections |
+-----+-----+-----+
| 22222 | Einstein | 1           |
| 12121 | Wu       | 1           |
| 32343 | El Said  | 1           |
| 45565 | Katz      | 2           |
| 98345 | Kim      | 1           |
| 76766 | Crick    | 2           |
| 10101 | Srinivasn | 3          |
| 58583 | Califieri | 0           |
| 83821 | Brandt   | 3           |
| 15151 | Mozart   | 1           |
| 33456 | Gold     | 0           |
| 76543 | Singh    | 0           |
+-----+-----+-----+
12 rows in set (0.0006 sec)
```