

Assignment Lab 4

1. Find the names of all students who are enrolled in a class taught by "John Williams".

```
SELECT DISTINCT s.sname FROM STUDENT s JOIN ENROLLED e ON s.snum = e.snum JOIN CLASS c ON e.cname = c.name JOIN FACULTY f ON c.fid = f.fid WHERE f.fname = 'John Williams';
```

```
mysql> SELECT DISTINCT s.sname
-> FROM STUDENT s
-> JOIN ENROLLED e ON s.snum = e.snum
-> JOIN CLASS c ON e.cname = c.name
-> JOIN FACULTY f ON c.fid = f.fid
-> WHERE f.fname = 'John Williams';
Empty set (0.22 sec)
```

2. Find the names of all Seniors (level = SR) who are enrolled in a class taught by I. Teach.

```
SELECT DISTINCT s.sname
FROM STUDENT s
JOIN ENROLLED e ON s.snum = e.snum
JOIN CLASS c ON e.cname = c.name
JOIN FACULTY f ON c.fid = f.fid
WHERE s.standing = 'SR' AND f.fname = 'Ivana Teach';
```

```
mysql> SELECT DISTINCT s.sname
-> FROM STUDENT s
-> JOIN ENROLLED e ON s.snum = e.snum
-> JOIN CLASS c ON e.cname = c.name
-> JOIN FACULTY f ON c.fid = f.fid
-> WHERE s.standing = 'SR' AND f.fname = 'Ivana Teach';
Empty set (0.00 sec)
```

3. Find the courses that "Lisa Walker" has enrolled in.

```
SELECT e.cname
FROM ENROLLED e
JOIN STUDENT s ON e.snum = s.snum
WHERE s.sname = 'Lisa Walker';
```

```
mysql> SELECT e.cname
-> FROM ENROLLED e
-> JOIN STUDENT s ON e.snum = s.snum
-> WHERE s.sname = 'Lisa Walker';
Empty set (0.00 sec)
```

4. Find the names of students who have taken at least one course.

```
SELECT DISTINCT s.sname
FROM STUDENT s
JOIN ENROLLED e ON s.snum = e.snum;
```

```
mysql> SELECT DISTINCT s.sname
-> FROM STUDENT s
-> JOIN ENROLLED e ON s.snum = e.snum;
+-----+
| sname |
+-----+
| Joseph Thompson |
| Christopher Garcia |
+-----+
2 rows in set (0.00 sec)
```

5. For each level, print the level and the average age of students for that level.

```
SELECT standing, AVG(age)
FROM STUDENT
GROUP BY standing;
```

```
mysql> SELECT standing, AVG(age)
-> FROM STUDENT
-> GROUP BY standing;
+-----+-----+
| standing | AVG(age) |
+-----+-----+
| SR      | 21.0000 |
| JR      | 20.0000 |
| SO      | 18.5000 |
| FR      | 18.0000 |
+-----+-----+
4 rows in set (0.01 sec)
```

6. For all levels except JR, print the level and the average age of students for that level.

```
SELECT standing, AVG(age)
FROM STUDENT
WHERE standing <> 'JR'
GROUP BY standing;
```

```
mysql> SELECT standing, AVG(age)
-> FROM STUDENT
-> WHERE standing <> 'JR'
-> GROUP BY standing;
+-----+-----+
| standing | AVG(age) |
+-----+-----+
| SR      | 21.0000 |
| SO      | 18.5000 |
| FR      | 18.0000 |
+-----+-----+
3 rows in set (0.00 sec)
```

7. For each faculty member that has taught classes, print the faculty member's name and the total number of classes she or he has taught.

```
SELECT f.fname, COUNT(c.name)
FROM FACULTY f
JOIN CLASS c ON f.fid = c.fid
GROUP BY f.fname;
```

```
mysql> SELECT f.fname, COUNT(c.name)
-> FROM FACULTY f
-> JOIN CLASS c ON f.fid = c.fid
-> GROUP BY f.fname;
+-----+-----+
| fname          | COUNT(c.name) |
+-----+-----+
| John Williams | 2              |
| Ivana Teach    | 1              |
| William Moore | 1              |
| Barbara Wilson | 2              |
| Richard Jackson | 1              |
| Linda Davis    | 2              |
| Jennifer Thomas | 1              |
+-----+-----+
7 rows in set (0.01 sec)
```