

SQL Databases Exercises

Problems 3.1.1 to 3.2.7

--Exercise Sheet 1

--3.1.1 -----

```
SELECT COUNT(*)
    AS "No. Records in LECTURING"
FROM lecturing
;
SELECT COUNT(*)
    AS "No. Records in COURSES"
FROM courses
;
SELECT COUNT(*)
    AS "No. Records in STAFF"
FROM staff
;
```

--3.1.2 -----

```
SELECT sid, firstname, lastname
FROM staff
WHERE office > 199
;
```

--3.1.3 -----

```
SELECT office, phone, lastname
FROM staff
WHERE firstname = 'Mark'
;
```

--3.1.4 -----

```
SELECT firstname, lastname, phone
FROM staff
WHERE office > 100
ORDER BY firstname DESC
;
```

--3.1.5 -----

```
SELECT sid
FROM staff
WHERE title <> 'Prof'
ORDER BY sid
;
```

--Exercise Sheet 2

--3.2.1 -----

```
SELECT cid
FROM courses
WHERE level > 1 AND level < 4 AND
semester = 1
;
```

--3.2.2 -----

```
SELECT firstname, lastname, office,
phone
FROM staff
WHERE phone IS NULL
    AND office IS NOT NULL
;
```

--3.2.3 -----

```
SELECT *
FROM lecturing
WHERE year = 2000 OR year >= 2002
ORDER BY cid
;
```

--3.2.4a -----

```
SELECT firstname,lastname,office
FROM staff
WHERE office IN (
    SELECT office
    FROM staff
    WHERE office IS NOT NULL
    GROUP BY office
    HAVING COUNT(*) > 1
)
ORDER BY office
;
```

--3.2.4b -----

```
SELECT office
FROM staff
WHERE office IS NOT NULL
EXCEPT ALL
SELECT DISTINCT office
FROM staff
ORDER BY office
;
```

--3.2.5 -----

```
SELECT cid,AVG(numbers)
    AS "Average Numbers" ,
    MAX(year) AS "Last Year Given"
FROM lecturing
WHERE year > 2000
GROUP BY cid
ORDER BY cid
;
```

--3.2.6 -----

```
SELECT cid, AVG(numbers)
    AS "Average Numbers",
    MAX(year) AS "Last Year Given",
    COUNT(sid) AS "No. Lecturers"
FROM lecturing
WHERE year > 2000
GROUP BY cid
HAVING COUNT(sid) > 1
ORDER BY cid
;
```

--3.2.7 -----

```
SELECT bc, MIN(mark)
FROM allmarks04
WHERE mark >= 40
GROUP BY bc
HAVING MIN(mark) > 5 +
    (SELECT AVG(mark) FROM allmarks04)
;
```