Self-test SQL Workshop

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ABIS Training & Consulting
Diestsevest 32 / 4b
B-3000 Leuven
Belgium
INTRODUCTION TO THE SELF-TEST SQL WORKSHOP

Instructions

The aim of this test is to check if you have a thorough knowledge of SQL. After the test you will know whether the 2-day SQL workshop is still worthwhile for you to follow, or whether you can immediately enrol for the 1-day SQL for advanced users.

This test consists of 15 questions (mainly multiple choice). Sometimes multiple answers must be given in which case this will clearly be indicated. Write down your responses and compare them with the solutions given on the last page. This test will take about half an hour.

Remarks:

• The SQL syntax used in the questions is ANSI/ISO SQL:2003, currently supported by all platforms (Db2, Oracle, MySQL, MariaDB, SQL Server, PostgreSQL, Hive, ...)

• This is an advanced SQL test. If you are unsure about your basic SQL skills, you should better start with the self-test for the “Fundamentals of SQL and relational databases” course.

Table and column information

The questions are based on the following tables:

• COURSES: describes all the courses that can be organised.
• SESSIONS: describes courses organised at a certain moment.
• PERSONS: describes all persons (instructors, enrollees, other persons).
• ENROLMENTS: contains all information on enrollees and their sessions.

The following relations exist between the tables:

• COURSES - SESSIONS
  - obtain course information for a certain session
  - COURSES.CID = SESSIONS.S_CID

• SESSIONS - ENROLMENTS
  - obtain session information for a certain enrolment
  - SESSIONS.SNO = ENROLMENTS.E_SNO

• PERSONS - SESSIONS
  - obtain person information for the instructor of a certain session
  - PERSONS.PNO = SESSIONS.SINS_PNO

• PERSONS - ENROLMENTS
  - obtain person information for a certain enrollee
  - PERSONS.PNO = ENROLMENTS.E_PNO
Table content and column descriptions

- COURSES table

<table>
<thead>
<tr>
<th>CID</th>
<th>CTITLE</th>
<th>CDUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>7890</td>
<td>Db2</td>
<td>5</td>
</tr>
<tr>
<td>7910</td>
<td>Unix</td>
<td>4</td>
</tr>
<tr>
<td>8500</td>
<td>Oracle</td>
<td>5</td>
</tr>
<tr>
<td>8000</td>
<td>SQLServer</td>
<td>5</td>
</tr>
<tr>
<td>9000</td>
<td>SQL workshop</td>
<td>3</td>
</tr>
</tbody>
</table>

- **CID**: required, alphanumeric: course number (primary key)
- **CTITLE**: required, alphanumeric: course title
- **CDUR**: required, numeric: course duration (in days).

- SESSIONS table (8 rows)

<table>
<thead>
<tr>
<th>SNO</th>
<th>S_CID</th>
<th>SDATE</th>
<th>SINS_PNO</th>
<th>SCANCEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>7890</td>
<td>2015-12-02</td>
<td>3</td>
<td>(NULL)</td>
</tr>
<tr>
<td>11</td>
<td>7910</td>
<td>2015-11-04</td>
<td>1</td>
<td>(NULL)</td>
</tr>
<tr>
<td>12</td>
<td>7890</td>
<td>2016-01-08</td>
<td>3</td>
<td>C</td>
</tr>
<tr>
<td>13</td>
<td>7890</td>
<td>2016-02-02</td>
<td>3</td>
<td>(NULL)</td>
</tr>
<tr>
<td>14</td>
<td>8000</td>
<td>2016-04-05</td>
<td>2</td>
<td>C</td>
</tr>
<tr>
<td>15</td>
<td>7910</td>
<td>2016-01-08</td>
<td>36</td>
<td>C</td>
</tr>
<tr>
<td>16</td>
<td>8500</td>
<td>2016-04-05</td>
<td>36</td>
<td>(NULL)</td>
</tr>
<tr>
<td>17</td>
<td>9000</td>
<td>2016-06-07</td>
<td>36</td>
<td>(NULL)</td>
</tr>
</tbody>
</table>

- **SNO**: required, numeric: session number (primary key).
- **S_CID**: optional, alphanumeric: course number (foreign key to COURSES).
- **SDATE**: optional: start date of the session.
- **SINS_PNO**: required, numeric: session instructor (foreign key to PERSONS).
- **SCANCEL**: optional: indicates if the session is cancelled ("C" means cancelled, empty (NULL) means not cancelled).
**PERSONS** table (19 rows)

<table>
<thead>
<tr>
<th>PNO</th>
<th>PNAME</th>
<th>P_CONO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SMITHS</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>TAVERNIER</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>DE KEYSER</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>HEBBELYCK</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>VAN DE BROECK</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>VAN HEIKKOOP</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>DE WINDT</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>SPENNER</td>
<td>10</td>
</tr>
<tr>
<td>9</td>
<td>BENOIT</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>BENOIT</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>LOOSE</td>
<td>(NULL)</td>
</tr>
<tr>
<td>13</td>
<td>PARKER</td>
<td>6</td>
</tr>
<tr>
<td>15</td>
<td>DEHEM</td>
<td>7</td>
</tr>
<tr>
<td>17</td>
<td>PIELAGE</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>GELADE</td>
<td>2</td>
</tr>
<tr>
<td>33</td>
<td>BUENK</td>
<td>9</td>
</tr>
<tr>
<td>36</td>
<td>ADAMSON</td>
<td>8</td>
</tr>
<tr>
<td>45</td>
<td>MOORS</td>
<td>4</td>
</tr>
<tr>
<td>50</td>
<td>MAK</td>
<td>(NULL)</td>
</tr>
</tbody>
</table>

- **PNO**: required, numeric: person number (primary key).
- **PNAME**: optional, alphanumeric: name.
- **P_CONO**: optional, numeric: number of the company the person works for.

**ENROLMENTS** table (14 rows, 9 different enrollees)

<table>
<thead>
<tr>
<th>E_SNO</th>
<th>E_PNO</th>
<th>ECANCEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>4</td>
<td>(NULL)</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>C</td>
</tr>
<tr>
<td>11</td>
<td>45</td>
<td>(NULL)</td>
</tr>
<tr>
<td>11</td>
<td>13</td>
<td>(NULL)</td>
</tr>
<tr>
<td>12</td>
<td>4</td>
<td>(NULL)</td>
</tr>
<tr>
<td>13</td>
<td>15</td>
<td>C</td>
</tr>
<tr>
<td>13</td>
<td>36</td>
<td>(NULL)</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>(NULL)</td>
</tr>
<tr>
<td>14</td>
<td>18</td>
<td>C</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>(NULL)</td>
</tr>
<tr>
<td>15</td>
<td>4</td>
<td>(NULL)</td>
</tr>
<tr>
<td>15</td>
<td>7</td>
<td>(NULL)</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>(NULL)</td>
</tr>
<tr>
<td>16</td>
<td>18</td>
<td>(NULL)</td>
</tr>
</tbody>
</table>

- **E_SNO**: required, numeric: session number for the enrolment (foreign key to SESSIONS) (primary key together with E_PNO)
- **E_PNO**: required, numeric: the enrollee (foreign key to PERSONS) (primary key together with E_SNO)
- **ECANCEL**: optional: “C” when enrolment was cancelled, NULL if not cancelled.
QUESTIONS SELF-TEST SQL WORKSHOP

1. Which ones of the following queries produce exactly 1 result row? [2 correct answers.]

   [ ] [a]
   ```sql
   SELECT COUNT(*)
   FROM   PERSONS
   WHERE  PNO > 100
   ```

   [ ] [b]
   ```sql
   SELECT PNO, COUNT(*)
   FROM   PERSONS
   WHERE  PNO = 2
   ```

   [ ] [c]
   ```sql
   SELECT COUNT(*)
   FROM   PERSONS
   GROUP BY PNO
   ```

   [ ] [d]
   ```sql
   SELECT PNAME
   FROM   PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
   WHERE  PNO = 36
   ```

   [ ] [e]
   ```sql
   SELECT PNAME
   FROM   PERSONS LEFT OUTER JOIN ENROLMENTS ON PNO = E_PNO
   WHERE  PNO = 2
   GROUP BY PNAME
   ```

   [ ] [f]
   ```sql
   SELECT SUM(CDUR)
   FROM   COURSES, SESSIONS, ENROLMENTS
   WHERE  CID = S_CID AND SNO = E_SNO
   GROUP BY CID
   ```

2. How many result rows are produced by this query?

   SELECT E_SNO
   FROM   ENROLMENTS
   UNION
   SELECT SNO
   FROM   SESSIONS
   WHERE  SNO BETWEEN 15 AND 17

   Answer: ............
3. Which queries produce the following table as the result? [3 correct answers.]

<table>
<thead>
<tr>
<th>PNO</th>
<th>PNAME</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SMITHS</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>3</td>
<td>DE KEYSER</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>4</td>
<td>HEBBELYNCK</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>7</td>
<td>DE WINDT</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>13</td>
<td>PARKER</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>15</td>
<td>DEHEM</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>18</td>
<td>GELADE</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>36</td>
<td>ADAMSON</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>45</td>
<td>MOORS</td>
<td>ENROLLEE</td>
</tr>
<tr>
<td>1</td>
<td>SMITHS</td>
<td>INSTRUCTOR</td>
</tr>
<tr>
<td>2</td>
<td>TAVERNIER</td>
<td>INSTRUCTOR</td>
</tr>
<tr>
<td>3</td>
<td>DE KEYSER</td>
<td>INSTRUCTOR</td>
</tr>
<tr>
<td>36</td>
<td>ADAMSON</td>
<td>INSTRUCTOR</td>
</tr>
</tbody>
</table>

[] [a]

```
SELECT PNO, PNAME, 'ENROLLEE OR INSTRUCTOR'
FROM PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
    INNER JOIN ENROLMENTS ON PNO = E_PNO
ORDER BY 3, 1
```

[] [b]

```
SELECT PNO, PNAME, CASE PNO WHEN E_PNO THEN 'ENROLLEE' ELSE 'INSTRUCTOR' END
FROM PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
    INNER JOIN ENROLMENTS ON PNO = E_PNO
ORDER BY 3, 1
```

[] [c]

```
SELECT PNO, PNAME, 'INSTRUCTOR'
FROM PERSONS
WHERE PNO IN (SELECT SINS_PNO
    FROM SESSIONS)
UNION ALL
SELECT PNO, PNAME, 'ENROLLEE'
FROM PERSONS INNER JOIN ENROLMENTS ON PNO = E_PNO
ORDER BY 3, 1
```

[] [d]

```
SELECT DISTINCT PNO, PNAME, 'INSTRUCTOR'
FROM PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
UNION ALL
SELECT PNO, PNAME, 'ENROLLEE'
FROM PERSONS
WHERE PNO IN (SELECT E_PNO
    FROM ENROLMENTS)
ORDER BY 3, 1
```

[] [e]

```
SELECT PNO, PNAME, 'INSTRUCTOR'
```
FROM PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
UNION
SELECT PNO, PNAME, 'ENROLLEE'
FROM PERSONS
WHERE PNO IN (SELECT E_PNO
                FROM ENROLMENTS)
ORDER BY 3, 1

[ ] [f]

SELECT DISTINCT PNO, PNAME, 'INSTRUCTOR'
FROM PERSONS INNER JOIN SESSIONS ON PNO = SINS_PNO
UNION
SELECT PNO, PNAME, 'ENROLLEE'
FROM PERSONS P
WHERE EXISTS (SELECT E_PNO
              FROM ENROLMENTS
              WHERE E_PNO = P.PNO)
ORDER BY 3, 1

4. How many result rows are produced by the following query?

SELECT DISTINCT PNO
FROM PERSONS LEFT OUTER JOIN ENROLMENTS ON PNO = E_PNO

Answer: ..........

5. Which queries give an answer to the following question? [3 correct answers.]

*Give the number of all sessions for which none of the enrolments have been cancelled.*

[□] [a]

```sql
SELECT DISTINCT SNO
FROM   SESSIONS, ENROLMENTS
WHERE  SNO = E_SNO AND ECANCEL IS NULL
```

[□] [b]

```sql
SELECT DISTINCT SNO
FROM   SESSIONS, ENROLMENTS
WHERE  SNO = E_SNO AND ECANCEL IS NOT NULL
```

[□] [c]

```sql
WITH E AS (SELECT E_SNO
             FROM   ENROLMENTS
             WHERE  ECANCEL IS NOT NULL)
SELECT SNO
FROM   SESSIONS LEFT OUTER JOIN E ON SNO = E_SNO
WHERE  E_SNO IS NULL
```

[□] [d]

```sql
SELECT SNO
FROM   SESSIONS
WHERE  SNO IN (SELECT E_SNO
                FROM   ENROLMENTS
                WHERE  ECANCEL IS NULL)
```

[□] [e]

```sql
SELECT SNO FROM SESSIONS
EXCEPT -- or MINUS when using Oracle
SELECT E_SNO FROM ENROLMENTS WHERE ECANCEL IS NOT NULL
```

[□] [f]

```sql
SELECT SNO
FROM   SESSIONS S
WHERE  NOT EXISTS (SELECT 1
                    FROM   ENROLMENTS
                    WHERE  E_SNO = S.SNO AND ECANCEL IS NOT NULL)
```

[□] [g]

```sql
SELECT SNO
FROM   SESSIONS INNER JOIN ENROLMENTS ON SNO = E_SNO
WHERE  ECANCEL IS NULL
```

[□] [h]

```sql
SELECT SNO
FROM   SESSIONS INNER JOIN ENROLMENTS ON SNO = E_SNO
WHERE  ECANCEL IS NOT NULL
```
6. Which queries produce the following table “all enrollees”? [3 correct answers.]

<table>
<thead>
<tr>
<th>PNAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMITHS</td>
</tr>
<tr>
<td>DE KEYSER</td>
</tr>
<tr>
<td>HEBBELYNCK</td>
</tr>
<tr>
<td>ADAMSON</td>
</tr>
<tr>
<td>DE WINDT</td>
</tr>
<tr>
<td>PARKER</td>
</tr>
<tr>
<td>DEHEM</td>
</tr>
<tr>
<td>GELADE</td>
</tr>
<tr>
<td>MOORS</td>
</tr>
</tbody>
</table>

[] [a]

SELECT PNAME  FROM PERSONS WHERE PNO IN (SELECT E_PNO AS PNO FROM ENROLMENTS)

[] [b]

SELECT PNAME FROM PERSONS INNER JOIN ENROLMENTS ON PNO = E_PNO

[] [c]

SELECT PNAME FROM PERSONS WHERE PNO = ANY (SELECT E_PNO FROM ENROLMENTS)

[] [d]

SELECT PNAME FROM PERSONS WHERE EXISTS (SELECT E_PNO FROM ENROLMENTS)

[] [e]

SELECT PNAME FROM (SELECT E_PNO FROM ENROLMENTS WHERE E_PNO IS NOT NULL) E INNER JOIN PERSONS ON PNO = E.E_PNO

[] [f]

SELECT PNAME FROM PERSONS LEFT OUTER JOIN ENROLMENTS ON PNO = E_PNO GROUP BY PNAME

[] [g]

SELECT PNAME FROM PERSONS RIGHT OUTER JOIN ENROLMENTS ON PNO = E_PNO GROUP BY PNAME
7. Which question corresponds best to the following query?

```
SELECT P_CONO, COUNT(*)
FROM   PERSONS P
WHERE  EXISTS (SELECT SNO
                FROM   SESSIONS
                WHERE  SINS_PNO = P.PNO)
GROUP BY P_CONO
```

O (a) Give per instructor the number of sessions he teaches. Give also the company where he is employed.

O (b) Give per company the number of employees who followed a course.

O (c) Give the number of sessions per course, and also the company where the instructor is employed.

O (d) Give the number of instructors per company.
8. Which ones of the following queries are equivalent to this query? [2 correct answers.]

```
SELECT PNAME
FROM   PERSONS
WHERE  PNO = ( SELECT MAX(PNO) FROM PERSONS )
```

[ ] [a]

```
SELECT PNAME
FROM   PERSONS
WHERE  PNO >= ANY (SELECT PNO FROM PERSONS)
```

[ ] [b]

```
SELECT PNAME
FROM   PERSONS
WHERE  PNO >= ALL (SELECT PNO FROM PERSONS)
```

[ ] [c]

```
SELECT PNAME
FROM   PERSONS P1
WHERE  EXISTS (SELECT MAX(PNO)
               FROM   PERSONS P2
               WHERE  P1.PNO = P2.PNO)
```

[ ] [d]

```
SELECT PNAME, MAX(PNO)
FROM   PERSONS
GROUP BY PNAME
```

[ ] [e]

```
SELECT P1.PNAME
FROM   PERSONS P1
LEFT OUTER JOIN
       PERSONS P2
ON      P1.PNO < P2.PNO
GROUP BY P1.PNO, P1.PNAME
HAVING COUNT(P2.PNO) = 0
```

9. Which queries give an answer to the following question? [3 correct answers.]

Give the list of all courses, also those for which no session has been planned yet. Give also all corresponding session numbers and the date on which each session starts.

[ ] [a]

```
SELECT CID, SNO, SDATE
FROM   COURSES INNER JOIN SESSIONS ON CID = S_CID
```

[ ] [b]

```
SELECT S_CID, SNO, SDATE
FROM   SESSIONS
```
[c]  
```
SELECT CID, SNO, SDATE
FROM   COURSES LEFT OUTER JOIN SESSIONS ON CID = S_CID
```

[d]  
```
SELECT CID, SNO, SDATE
FROM   COURSES RIGHT OUTER JOIN SESSIONS ON CID = S_CID
```

[e]  
```
WITH S AS (SELECT SNO, S_CID, SDATE
            FROM   SESSIONS
            WHERE  S_CID IS NOT NULL)
SELECT CID, SNO, SDATE
FROM   COURSES INNER JOIN S ON CID = S_CID
UNION ALL
SELECT CID, 0, CAST(NULL AS DATE)
FROM   COURSES
WHERE  CID NOT IN (SELECT S_CID FROM S)
```

[f]  
```
SELECT C.CID, S.SNO, S.SDATE
FROM   (SELECT CID FROM COURSES) C
        LEFT OUTER JOIN
        (SELECT SNO, S_CID, SDATE FROM SESSIONS) S
        ON  S_CID = CID
```

[g]  
```
SELECT CID, SNO, SDATE
FROM   COURSES INNER JOIN SESSIONS ON CID = S_CID
UNION ALL
SELECT S_CID, SNO, SDATE
FROM   SESSIONS
WHERE  S_CID IS NULL
10. Which query implements the following question?

*Give the names of all instructors who have in addition also followed more than 1 course.*

**O (a)**

```sql
SELECT PNAME FROM PERSONS
WHERE PNO IN (SELECT E_PNO
              FROM ENROLMENTS INNER JOIN SESSIONS ON E_SNO = SNO
              WHERE E_PNO = SINS_PNO
              AND ECANCEL IS NULL
              AND SCANCEL IS NULL
              GROUP BY E_PNO HAVING COUNT(*) > 1)
```

**O (b)**

```sql
SELECT PNAME FROM PERSONS
WHERE PNO IN (SELECT SINS_PNO
              FROM SESSIONS
              WHERE SCANCEL IS NULL
              AND SNO IN (SELECT E_SNO
                           FROM ENROLMENTS
                           WHERE ECANCEL IS NULL
                           GROUP BY E_PNO HAVING COUNT(*) > 1)
              )
```

Syntax error in the innermost subquery: E_SNO not guaranteed constant in a group.

```
GROUP BY E_PNO instead of E_PNO would list all instructors of sessions having more than one not cancelled enrolment.
```

**O (c)**

```sql
SELECT PNAME
FROM PERSONS INNER JOIN
(SELECT E_PNO FROM ENROLMENTS
     WHERE ECANCEL IS NULL
     AND E_SNO IN (SELECT SNO FROM SESSIONS WHERE SCANCEL IS NULL)
     GROUP BY E_PNO HAVING COUNT(*) > 1) E
ON PNO = E_PNO
WHERE PNO IN (SELECT SINS_PNO FROM SESSIONS)
```

```
GROUP BY PNAME would be less accurate, in case the of two instructors with the same name.
```

**O (d)**

```sql
SELECT PNAME
FROM PERSONS INNER JOIN ENROLMENTS ON PNO = E_PNO
INNER JOIN SESSIONS S1 ON E_SNO = S1.SNO
INNER JOIN SESSIONS S2 ON PNO = S2.SINS_PNO
WHERE S1.SCANCEL IS NULL AND ECANCEL IS NULL
GROUP BY E_PNO, PNAME HAVING COUNT(*) > 1
```

Instructors who gave more than one session, but only followed a single session themselves, are nonetheless listed.

**O (e)**

```sql
WITH P AS (SELECT PNO, PNAME FROM PERSONS),
    E AS (SELECT E_PNO, E_SNO FROM ENROLMENTS WHERE ECANCEL IS NULL),
    S AS (SELECT SNO, SINS_PNO FROM SESSIONS WHERE SCANCEL IS NULL)
SELECT PNAME
FROM P INNER JOIN E ON PNO = E_PNO
INNER JOIN S S1 ON E_SNO = S1.SNO
INNER JOIN S S2 ON PNO = S2.SINS_PNO
GROUP BY E_PNO, PNAME HAVING COUNT(*) > 1
```

Instructors who gave more than one session, but only followed a single session themselves, are nonetheless listed.
11. What can be said about this query?

```
SELECT SNO, PNAME, SDATE
FROM   SESSIONS, PERSONS
WHERE  SINS_PNO = PNO
UNION
SELECT E_PNO, PNAME
FROM   PERSONS, ENROLMENTS
WHERE  PNO = E_PNO
ORDER BY 1
```

O (a) Query cannot be executed (gives a syntax error).
O (b) Query can be executed and makes sense (according to the table and column definitions).
O (c) Query can be executed but returns nonsense.

12. What can be said about this query?

```
SELECT SNO, SDATE, PNAME
FROM   SESSIONS INNER JOIN ENROLMENTS ON SNO = E_SNO
       INNER JOIN PERSONS ON P_CONO = E_PNO
WHERE  ECANCEL IS NULL
       AND  SCANCEL IS NULL
```

O (a) Query cannot be executed (gives a syntax error).
O (b) Query can be executed and makes sense (according to the table and column definitions).
O (c) Query can be executed but returns nonsense.

P_CONO & E_PNO don't have the same meaning, even though syntactically there's nothing wrong.

13. What can be said about this query?

```
SELECT SNO, SDATE, S_CID
FROM   SESSIONS S
WHERE  SCANCEL IS NOT NULL
      AND  SDATE = (SELECT MAX(SDATE)
                     FROM   SESSIONS
                     WHERE  S_CID = S.S_CID)
```

O (a) Query cannot be executed (gives a syntax error).
O (b) Query can be executed and makes sense (according to the table and column definitions).
O (c) Query can be executed but returns nonsense.

This query lists the last session of each course, including date and course number.

14. What can be said about this query?

```
SELECT PNAME, COUNT(*)
FROM   PERSONS INNER JOIN SESSIONS ON SINS_PNO = PNO
```

O (a) Query cannot be executed (gives a syntax error).
O (b) Query can be executed and makes sense (according to the table and column definitions).
O (c) Query can be executed but returns nonsense.
15. What can be said about this query?

```
SELECT (SELECT COUNT(*) AS nr_8000
    FROM   SESSIONS
    WHERE  S_CID = '8000')
    * 100.0 / COUNT(S_CID) AS percent_8000
FROM   SESSIONS
```

O (a) Query cannot be executed (gives a syntax error).
O (b) Query can be executed and makes sense (according to the table and column definitions).
O (c) Query can be executed but returns nonsense.
EVALUATION.

Here are the correct answers to all questions:

1. a e
2. 8
3. d e f
4. 19
5. c e f
6. a c g
7. d
8. b e
9. c e f
10. c
11. a
12. c
13. b
14. a
15. b

Give yourself 1 point for each correctly answered question; for multiple answer questions, all answers should be correct.

When your score is 80% or above, you are ready for our Advanced SQL course.

When your score is between 50% and 80%, following the course SQL workshop will allow you to refine your SQL knowledge.

When your score is less than 50%, following the course SQL workshop is advisable. You will get a high return from this course. Be sure your basic SQL and RDBMS knowledge is sufficient: fill out the corresponding self-test to verify this.