Information about the laboratory sessions

This course has a strong practical component. Some laboratory sessions have an assessment activity, which counts for the final mark. Students will get trained in a previous laboratory session for each evaluated session and will have the opprotunity to continue further training by means of remote training questionnaires.

Training

Training is aimed at preparing each assessment laboratory session. Trainings propose similar activities to those that will be evaluated and the students must use them as a tool to be able to solve the exercises with fluency *as time is limited during the assessment session*. Trainings will be made in training lab sessions and must be completed, if necessary, during self-study time.

Students must keep in mind that **these training exercises are not meant to be exhaustive. Students must consider them as a starting point to a wider and deeper study and try to make exercises to cover all possibilities** by their own according to what have been taught. Otherwise, they will not be ready to achieve the best result during the evaluation session.

Assessment session

These sessions are conducted in the lab classroom, during lecture time, under the supervision of a proctor. About students, they will be paired up in lab teams, which consist of two students of the same subgroup. These couples will change throughout the course:

- The first time, students use a Moodle module that allows each student to create a pair (if not yet reached the maximum number of pairs) or join a pair already created by another student (if no one has joined it yet).
- Other times, the teachers will create the teams.

Assessment laboratory sessions are closed, that is, during the session the team will solve some exercises taking a limited amount of time. At the end, the work done will be delivered and scored. Students are expected to behave as in an examination. Specifically:

- You cannot enter or leave the classroom.
- Each team has to work on its own. There must not be interaction between students of different teams.
- You are not allowed to do activities other than the practice.
- The practice will, in general, be made using computers in the classroom. You cannot use laptops or other devices with communication capabilities.
- The only printed material allowed are the slides of the course (may be annotated). It's not allowed to connect memory sticks nor other storage devices to the classroom computers.
- You can request assistance from the teacher in case of difficulties.

At the end of the session, you will hand in (up to) three different deliverables:

- The answer sent to the Learn-SQL tool,
- A validation deliverable related to your Learn-SQL answer and
- In some sessions, an additional paper exercise regarding other topics that cannot be evaluated by means of Learn-SQL.

> **An unattended lab session is automatically scored as 0.**

Carefully follow instructions below during assessment sessions conducted by means of the Learn-SQL tool:

- Plan your time so you do the final submission, at least, a quarter before the end of the session (e.g., at x and 40 minutes if the lab session ends at x + 55 mins). Do note that the lab session ending time is always 5 minutes before o'clock hours. At that time the Learn-SQL questionnaire is automatically closed. We should take into account, however, possible misalignments of clocks.
- Remember that, besides the Learn-SQL exercise, you will have one or two papers (i.e., validation deliverable plus, sometimes, a paper exercise) to hand in. Take your time to do your best, as their impact on the mark can be substantial.
- **Note that the rating given by the automatic correction is not definitive.** There will always be an ulterior review by teachers. Moreover, the session final mark (that will be published in the Moodle "grades" section) will incorporate the grade of the validation deliverable paper. Finally, in those sessions including some additional questions to be delivered in paper (about other topics), the final grade will also include the evaluation of such responses.
- **The validation deliverable will be marked** as A, B or C. This will imply a factor of 1, 0.9 or 0.7 to be applied to the original mark to get the final session mark.
- Do not edit your solution in the Learn-SQL questionnaire window. Doing so, you can lose what you wrote. We therefore recommend editing your solution in some file that you save from time to time. When you think that you have the right answer, copy & paste to the questionnaire window.
- This recommendation is valid not only for the first version of your solution, but also for successive ones. Should you make some changes in your answer, once it has been assessed by the Learn-SQL tool, make them, again, in an external file, save it and then copy and paste your new result.
- **Do not use the tool as a DBMS client.** Doing so you unnecessarily load the system and harm other users. Moreover, realize that you have a limited amount of attempts (i.e., number of answers you can provide) for each exercise. If you do not carefully check and test your answer you will unnecessarily consume attempts. Note that using more than one attempt will be penalized in the final mark by a factor published in the questionnaire. We recommend therefore that you first test your solution using a client such as SQLDeveloper (using the public test case and thinking additional ones) and when you think that you have the right answer, submit it. Bear in mind the following constraints in order to avoid consuming attempts:
  - Syntactic errors do not count as attempts
  - The format of dates is set 'dd/mm/yyyy'
  - Be careful not to put non-ASCII characters (accents, cedilla, …) to any part of your solution. This can cause the system to display **erratic** error messages
  - In case your answer is not correct, Learn-SQL will suggest some possible corrections in case you head for a new attempt. These suggestions aim at helping you. **However, you are responsible to decide whether these suggestions make sense or not and by no means they should be blindly followed to the letter.**
  - The instructions that follow are related to the exercises of the first sessions (SQL queries) only:
    - Remember to put the word `DISTINCT` if and only if it is possible that the query returns two identical rows
    - Don't forget to use `ORDER BY`. If it is needed and you don't put it, you will get messages that have nothing to do with the mistake
    - As quality rule, try to avoid subqueries whenever it is possible
    - You are not allowed to use the following constructions:
      - `SELECT` in the `FROM` or `SELECT` clauses. You are though allowed to have subqueries (`SELECT` in the `WHERE` or `HAVING` clauses)

- Combinations of aggregation functions such as `COUNT (COUNT. ..))`, `SUM (COUNT. ..))` and the likes
- UNION whenever you can avoid it
- Non-standard functions (such as NVL)
- The CASE keyword
- JOIN syntax is as follows:
  - § `INNER JOIN: SELECT ... FROM t1 JOIN t2 ON condition`
  - § `Left outer join: SELECT ... FROM t1 LEFT OUTER JOIN T2 ON condition`
  - § `Right outer join: SELECT ... FROM T1 RIGHT OUTER JOIN T2 ON condition`
  - § `FULL OUTER JOIN: SELECT ... FROM T1 FULL OUTER JOIN T2 ON condition`
  - § `Cartesian product: SELECT ... FROM T1 CROSS JOIN T2`
  - You can combine them and build expressions like: `SELECT ... FROM T1 CROSS JOIN T2 LEFT OUTER JOIN T3 ON condition`