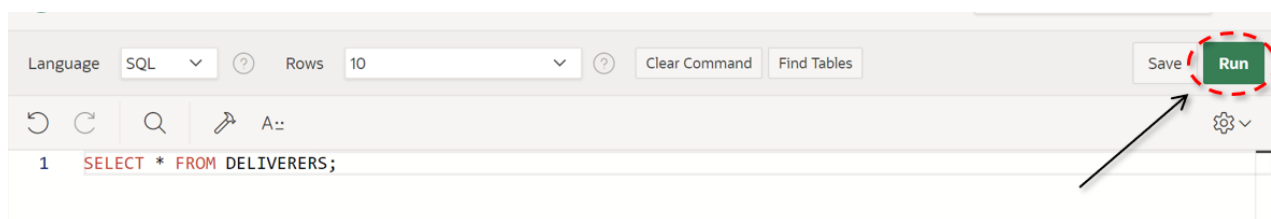# Laboratory 3
Write and execute SQL queries

Goal

The objective of this practice is to write some SQL queries and execute them on an Oracle.

To write the SQL query on Oracle Apex, go to *SQLWorkshop* and then *SQL Commands*. Execute it by clicking on the *Run* button (see figure)..

1   Description of the *Delivery* database

The *Delivery* database gathers information about the activities of a firm delivering and collecting goods for various customer companies.

The DELIVERERS table contains the personal data for the deliverers working at the firm. For each deliverer, the following information is available: identification code (DELIVERERID), last name, first name initials, year of birth, sex, year when she/he began working for the firm, street, house number, city, residence postal code, cellular phone number, and office phone number.

The COMPANYDEL table reports the total number of deliveries (NUMDELIVERIES) and collections (NUMCOLLECTIONS) made by each deliverer for each customer company. Note that the table only reports the deliverer-company pairs such that the deliverer performed at least one delivery or collection for the company.

The PENALTIES table reports the fines received by each deliverer. For each fine, the fine code (PENALTYID), the deliverer code, the fine date, and amount to be paid are stored.

The COMPANIES table reports, for each customer company, the company identification code (COMPANYID) and the identification code of the deliverer who is the company's current reference person. In addition, it reports the number of times (MANDATE) the deliverer held this position.

2 SQL Queries

1. Find the maximum number of fines received by a deliverer on the same date.
2. Calculate the total cost of fines received by each deliverer. Then, calculate the average of the total costs of the deliverer.
3. For each company, find the identifier of the deliverer who has carried out the most deliveries.
4. For each company, find the identifier of the male deliverer and the ID of the female deliverer who have made the most deliveries (if present).
5. Select the identifier and name of the deliverer and the total amount of fines received by all deliverers for which the total amount of fines received is greater than the average of the fine
6. Select the identifier, date, and cost of the fines, and the average cost of fines in the year extracted from the date, for all fines where the average cost is greater than the average cost of the year in which the fine was received. To extract the year from a date in Apex, you can use the following function: EXTRACT(YEAR FROM PENALTIES.DATA)
7. Find the total number of deliveries made by each deliverer. Then, calculate the average total number of deliveries for all deliverers and the average number of deliveries made by deliverers for each city. Finally, select the cities for which the average deliveries made by deliverers in that city is lower than the average total number of deliveries for all deliverers.
8. Find the total number of collections made by each deliverer. Then, identify the birth year of the deliverers with the highest average number of collections made.
9. Identify the gender and number of fines for the category of deliverers with the highest number of fines in the database.
10. Find the gender and number of deliveries of the gender that has made the highest number of deliveries.