First Project Delivery - ER and SQL

“The WellDressed fashion company wants to create a database about its products and exhibitions. The company hires fashion models to partake in fashion exhibitions. Each model provides their personal data, including Personal ID, name, surname, birth date, phone number, height, and dress size (XS, S, M, L, XL, etc.). Models are assigned to a fashion designer. These are described by their Personal ID, name, surname, stage name[1], phone number, and a brief description of their career. Fashion designers produce dresses for the models to wear in exhibitions. Each dress is worn by one model. Dresses are identified by a unique ID, size (XS, S, M, L, XL, etc.), colour, and production time. Dresses are made using fabrics described by a unique ID, price per square meter, name, and description of their properties. The amount of fabric used to produce a dress is also stored. Fabrics can be made from other fabrics. Models partake in exhibitions, described by a unique ID, duration (in minutes), title, location address, and description. Once a year, a fashion competition is held. The competition involves fashion designers submitting one of their dresses. The winning dress is marked as such. Dresses can be submitted to one competition only.”

As the first Project Delivery, you are asked to submit a document describing the following.

ER) *ER Model* of the problem, including all the necessary attributes, (potential) assumptions, important reasoning, etc., made on the text.
N.B. Remember that you’re not allowed to contradict the text in any way!
LM) From the ER model, define the *Logical Model*, describing all the entities, their attributes, primary and foreign keys, etc.
RM) From the Logical Model, define the final *Relational Model*, describing all the tables that will be implemented in the final database with their attributes, primary and foreign keys, relationships, etc.
SQL1) From the Relational Model, write and describe the code to define each table, including their attributes, primary and foreign keys, etc.
SQL2) Populate the database using mockaroo by creating at least 25 tuples for each table. For each one, share a simple screenshot representing the data.
SQL3) For each of the following combinations of SQL statements, write and describe at least one query (i.e., pick a suitable title based on its objective, report the query, describe how it works and what it does), and run it on your database instance, reporting its outcome.

- WHERE
- WHERE, LIMIT, LIKE
- WHERE, IN, Nested Query
- GROUP BY, 1 JOIN, AS
- WHERE, GROUP BY
- GROUP BY, HAVING, AS
- WHERE, GROUP BY, HAVING, AS
- WHERE, Nested Query, GROUP BY
- WHERE, GROUP BY, HAVING, 1 JOIN
- WHERE, GROUP BY, HAVING, 2 JOINs

[1] stage name → nome d’arte

To write the final report, you can use any text tool (e.g., Word, Overleaf, etc.). I highly advise to use Latex through Overleaf, downloading the template for the project at the following link. Remember that the document **structure** and **appearance** will also affect the evaluation. The final document is to be delivered in **.pdf** format.
To create the ER Model, follow the formalisations explained during the first lectures (remember to set the **reading direction** for the relationships, as previously explained). It is highly recommended to use draw.io. The same tool is highly advised to describe the *Relational Model*.

The final delivery must contain the following items.

- A **self-contained** dump of the database (i.e., please select the option "Self-Contained Dump" when exporting it from MySQL)
- The **.pdf** file with the report, including
    - First Page (members' name, surname, personal code, title, academic year)
    - Index (index of the contents of the document)
    - Introduction (text of the delivery)
    - Text Analysis (entities and relationships identified, with their attributes and assumptions, if needed)
    - A chapter for each one of the requests previously defined
- A folder with **high-resolution** pictures of the ones included in the report (e.g., ER Model, Tables, etc.).

Make a simple description below each figure you include in the delivery.

The deadline to deliver the project is two weeks after the project delivery was assigned by midnight (e.g., If the project is assigned on the 10th of November, it must be delivered by the 25th of November at midnight). Any later delivery won't be evaluated and no points will be assigned, regardless of the motivations provided.

I would also like to remember there will be an oral examination at the end of the project where the members of the group will present the work done. The group will be evaluated as a whole, no exceptions. Hence, I highly suggest **all** group members partake in the project. The oral presentation and examination modalities will be explained later.

You can register your group at the following link until the 2nd of November. Those who are not assigned to any group by the deadline (even as single students) may be subject to penalties. If there's no empty group to join, feel free to create a new one. Furthermore, we will try to merge partially filled groups as much as possible.