EICTA 2023/24

SECOND PROJECT DELIVERY

Neo4j + BPMN

The 2nd Project Delivery is built starting from the 1st Project Delivery. In particular, we ask you to choose a set of minimum 5 entities from your ER Model and develop a Neo4j Database, including nodes and relationships built using the chosen entities. For each node type (i.e., nodes representing the chosen entity), you should represent its attributes and relationships with the other chosen node types (be coherent with your ER diagram). Of course, choose nodes that are in a relationship with each other. You can reuse the same data you created for the MySQL Database. To do so, export the data in a .csv format and follow this guide to upload it into your Neo4j DB. Create at least 10 node instances for each node type.

The final delivery should include the following.

DB) A schematic representation of the chosen nodes (i.e., how these are connected, their attributes, etc.). Similar to an ER Diagram for Graph DBs. No cardinalities are needed.

Details) For each node and relationship, list their attributes and their types and include a small description. If your 1st delivery already included these elements, you can either copy-paste them or refer to your 1st delivery section.

Query) Write the following queries

- A total of 5 creation/update/delete queries (at least 1 for each type)
- A total of 10 queries of the following complexities
    - 3 queries with at least 2 nodes in the MATCH statement and conditions
    - 2 queries with at least 2 nodes in the MATCH statement, conditions and aggregation **without** a WITH statement
    - 2 queries with at least 2 nodes in the MATCH statement, conditions and a WITH statement
    - 2 queries with at least 3 nodes in the MATCH statement, conditions and multiple WITH statements
    - 1 query with the shortestPath(...) function

For each query, provide the same elements required in the 1st delivery (i.e., title, description, screenshots, etc.).

BPMN) Given the following process, write the BPMN diagram representing it. Models submit their CVs through the company's front desk. As soon as a CV is received, it is forwarded to the HR department, which checks it. If they deem the candidate suitable for a position, they forward the CV to the head of the company. Otherwise, the candidate is noticed, and the process terminates. The head of the

company contacts the fashion designers (internals) who work for the company and submits the model's CV to them. Designers have three days to reply to the head (a response is mandatory, even if negative). If a designer is interested in working with the model, the head asks the front desk to contact the model to set up a meeting with them. If no designer is interested, the candidate is notified, and the process terminates. If the model answers affirmatively, the designer is contacted through the front desk, and they are asked to prepare a dress for the model. The dress is sent to the model, and then a meeting with the head is held. After the meeting, the head of the company provides their final decision through the front desk. They have at most 5 days to do so. Otherwise, the candidate is notified, and the process terminates.

To write the final report, you can use any text tool (e.g., Word, Overleaf, etc.). I highly advise using Latex through Overleaf and downloading the template for the project using 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.

The final delivery must contain the following items.

- A dump of the Neo4j database
- 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)
    - 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.