

Assignment **A07** – **Neo4j**

Assignment

- Insert realistic **nodes and relationships** into our **Neo4j** database
 - Use a single **CREATE** statement for this purpose
 - Insert altogether at least **10 nodes** for entities of at least 2 different types (i.e., different labels)
 - Insert altogether at least **15 relationships** of at least 2 different types
 - Include properties (both for nodes and relationships)
 - Associate all your nodes with user-defined identifiers
- Express **5 Cypher query expressions**
 - Use at least once each of the following (sub)clauses
 - **MATCH**, **OPTIONAL MATCH**, **RETURN**, **WITH**, **WHERE**, and **ORDER BY**
 - Use aggregation in at least one query
 - Do not forget that **SIZE** is not an aggregate function

Requirements

- Since just a **single shared database** is available, the following convention needs to be followed
 - Prefix names of all **node labels and relationship types** with your login name (**pdb251_login**)
 - E.g., **pdb251_login_ACTOR** for a node label or **pdb251_login_PLAY** for a relationship type
- During the homework assessment, these prefixes will automatically be replaced
 - You can thus safely assume that no nodes or relationships having such prefixes will exist
- **Describe the meaning of your Cypher expressions** in natural language
 - Comments are written as `// comment`
- Each query expression must be evaluated to a **non-empty result**
- Specify **node labels and relationship types and directions** whenever possible

Submission

- **queries.cypher**: text file with a sequence of Cypher statements (including **CREATE**)

Execution

- Execute the following shell command to evaluate the whole Neo4j script
 - `cypher-shell -u $UserName -p $UserPassword -f $ScriptFile \`
`--non-interactive --format verbose`
 - `$UserName` is your Neo4j user name (i.e., **pdb251_login**)
 - `$UserPassword` is your Neo4j password (if not specified, you will be prompted)
 - `$ScriptFile` is a file with Cypher queries to be executed (i.e., **queries.cypher**)

Tools

- **Neo4j** (4.4.10) – <https://www.neo4j.org/>
 - Already installed on the NoSQL server

References

- **Cypher Query Language**
 - <https://neo4j.com/docs/cypher-manual/4.4/>

- **Cypher Reference Card**

- <https://neo4j.com/docs/cypher-cheat-sheet/4/all/>