LAB 1: Neo4j Installation

Graph Databases and Querying

Objectives

By the end of this lab, you will be able to:

- Install Neo4j on your machine (via Neo4j Desktop).
- Create and start your first Neo4j database (DBMS).
- Navigate the Neo4j Browser interface.
- Load and explore the built-in **Movie graph** sample dataset.
- Run your first read-only Cypher queries and interpret the graph visualisation.

Installing Neo4j

Download and install Neo4j Desktop

1. Go to https://neo4j.com/download/ and download **Neo4j Desktop** for your operating system (Windows, macOS, or Linux).
2. You will be asked to register with an email address to receive an activation key — keep this key, you will need it on first launch.
3. Run the installer and follow the on-screen instructions (accept the default installation options).
4. Launch Neo4j Desktop and paste in your activation key when prompted.

Create your first DBM

1. In Neo4j Desktop, click **"New"** → **"Create a Local DBMS"**.
2. Give it a name, e.g. `CourseDB`.
3. Set a password you will remember (e.g. `neo4jlab123`) — the default username is `neo4j`.
4. Choose the latest available Neo4j version (5.x or 2025.x) and click **Create**.
5. Once created, click **Start** on your new DBMS and wait until its status turns green ("Active").

If your DBMS fails to start, check that no other process is already using ports `7474` (HTTP) or `7687` (Bolt). Restart Neo4j Desktop if needed.

Opening Neo4j Browser

Connect to your database

1. in Neo4j Desktop, click **"Open"** on your running DBMS — this launches Neo4j Browser automatically.
2. You should see a connection screen. Set:
   - Connect URL: `bolt://localhost:7687`
   - Username: `neo4j`
   - Password: the one you set above (e.g. `neo4jlab123`)
3. Click **Connect**.

Tour the interface

Identify the following areas of Neo4j Browser:

- The **query editor** at the top, where you type Cypher statements.
- The **result frame** below it, showing tables, graphs, or messages.
- The **left sidebar**, listing database information: node labels, relationship types, property keys.
- The **Favorites** tab, where you can save queries you use often.

Run the built-in guide by typing:

```
:play intro
```

and click through its first two or three slides.

Loading the Movie Graph

Load the sample dataset

In the query editor, run:

```
:play movies
```

This opens an interactive guide. Follow it up to (and including) the step that creates the dataset — it will run a large `CREATE` statement for you. Alternatively, if you prefer to trigger it directly, click the **"Run"** button next to the Cypher code block shown in the guide.

Verify the data was loaded

Run:

```
MATCH (n) RETURN count(n) AS totalNodes;
```

You should see around 171 nodes. Then run:

```
CALL db.labels();
```

You should see two labels: `Movie` and `Person`.
If `totalNodes` is 0, re-run the `:play movies` guide and make sure you executed its `CREATE` step.