# KNOWLEDGE GRAPH ASSIGNMENT

## PART 1: KNOWLEDGE GRAPH CREATION

Create a knowledge graph in neo4j for a hospital dataset.

It must include the following nodes:

   - Patient nodes (e.g., 'John Doe')

   - Doctor nodes (e.g., 'Dr. Smith') with property 'name'

   - Disease nodes (e.g., 'Hypertension')

   - Medication nodes (e.g., 'Lisinopril')

It must include the following relationships:

- DIAGNOSED_WITH (Patient DIAGNOSED_WITH Condition)
- TREATS (Doctor TREATS Disease)
- TREATMENT_FOR (Medication TREATMENT_FOR Disease)

Create a sample dataset with 20-30 patients, 5 doctors, 10 diseases, 15 treatments

**Tip**

Use chatgpt (or similar) to create the synthetic dataset and cypher queries needed to populate neo4j with the same

Validate in the neo4j queries dashboard that you are seeing all the items and relationships

The following query will show a visual graph:
MATCH (n)
OPTIONAL MATCH (n)-[r]-()
RETURN n, r

## PART 2: CYPHER QUERIES

Write cypher queries for the following:

1) Which doctors can treat diabetes?
2) Which medications are commonly prescribed for hypertension? Which one is most popular?
3) How many patients are there?

**Submission:**

1) Cypher script for schema creation
2) Cypher script for queries
3) Screenshot of the complete graph from neo4j