* A short description of the company (you can use just one department or business process if the company is large).

Healthcare Tracker:

To manage dynamic interactions between patients, healthcare providers and insurers. Implementing SQL queries

* Reasons why the company needs a database.
* The system is dedicated to maintaining precise and secure records, covering comprehensive details such as Patient profiles, Doctor information, Treatment records as well as payment and Billing particulars.
* Every hospital needs a enhanced patient and appointment database to have a exact record for the respective future appointments and for the health insurance coverage as well.
* Treatment bill and the Insurance coverage plan mainly depends on the patient record and paid bills.
* Detailed business requirements that describe all entities, relationships, and constraints from the business perspective. Do not include more than 4-5 entities! It is very difficult to design a large database without prior experience. Your database will be revised in the following assignments, and you will have a chance to make it more complicated later on.
* Entities: Patient, Doctor, Coverage\_Plan and Insurance\_Provider
* Relationships:

1. Patient and Coverge\_Plan -> One-to-Many (Patient can opt in for one coverage plan and every coverage plan can have many patients).
2. Patient and Doctor -> Many-to-Many (Patient can have many checkups from respective doctors and Doctor can have many patients under him).
3. Insurance\_Provider and Coverage Plan-> One-to-Many (Each Insurance provider can have multiple coverage plans but a coverage plan can be accessed by a Insurance\_Provider )

* A list of different users for the database you proposed. Define user categories and describe different types of applications each user would need. Explain what type of interface each user would need.

Patients: Patients can opt into insurance policies, upgrade existing policies, enter their information, look at insurance providers, doctors.

Doctors: Doctors can access patient’s details, should be able to connect with Insurance providers,

Insurance providers (Employees of insurance company): Insurance providers can access patients’ details, doctor’s details, able to accept (or revoke) insurance requests, Modify or add coverage plans,

* Explain which DBMS architecture you would choose from section 2.5 of the Fundamentals of Database Systems textbook and why. Why would the other architecture not be a good choice?

I will choose 3-tier architecture as this architecture has a separate layer for DBMS and that is very important for a web application. Centralized architecture doesn’t work as the databases now a days are very huge, and you can’t handle them in a single computer/workstation. Client server architecture does not work as we need to scale up the database whenever we want as it is a health-related database and there might be many patients and doctors added each day. Two tier architecture doesn’t work as we don’t have a business layer which is very important for web applications as there might be many other webpages that the application needs to handle.