

1. Consider the task given below

Task: "Find all restaurants within the five km radius of my work place location."

For the task given above, Find out

- a. What is the database type needed for this query execution?
Spatial database
- b. What type of query processing is used here? Explain it.
Range query
- c. What kind of indexing suits best for organizing the data objects used in the query?
Grid Files ,Tree structure

2. Consider the scenario - "The police department wants to develop a software which could retrieve the frames in which the victim appears from a CCTV footage" -

- a. Identify the database suitable for this implementation and justify your answer.

Multimedia database

- b. What are the different types of multimedia source?

Type of multimedia source (image, video, audio, or text).

- c. How are multimedia sources indexed for content-based retrieval?

- The term "content" in this context might refer to colors, shapes, textures, or any other information that can be derived from the image itself
- A content-based retrieval system processes the information contained in image data and creates an abstraction of its content in terms of visual attributes. Any query operations deal solely with this abstraction rather than with the image itself. Thus, every image inserted into the database is analyzed, and a compact representation of its content is stored in a feature vector, or signature.

3. How does the client-server relationship is established, when the portable devices starts a wireless communication?

**MANET,
Base Station
Client**

4. A cracker factory in Sivakasi is planning to set up their new unit in Vellore. They are doing database processing in their premise, but now they want a common platform service for database operations.

- a. To which database they have to migrate?

Cloud database

- b. What are the steps in migrating to the new database?

Planning

- Requirements gathering

- Determining capabilities to address the requirements
- Assessment of which databases to move and what changes might be required to the database or the applications using it
- Establishing success criteria and rollback criteria (fail-safes)

Data movement

- Replication
- Incorporation of changes since the replica was created
- Application testing
- Cutover
- Post-migration checks

Optimization

- Performance tuning
- Designing high availability
- Determining what events to log and monitor
- Creating a disaster recovery plan