MCQ (30 Multiple choices for 30 Marks)

The time required to position the read/write head over a record to be read is called the ____ time

a) seek

b) block transfer

c) rotational time

d) Greenwich Mean

The first step in query processing is ___.

a) scan the query

b) use heuristic optimization

c) compute the cost of the operations

d) determine the execution plan

The ____ approach to scheduling concurrent transactions assigns a global unique stamp to each transaction.

a. Scheduled
c. unique
b. table-locking
d. timestamping

Lock ____ indicates the level of lock use.

a. Granularity
c. growing
b. Shrinking
d. serializability

Final Exam

____ deals with ensuring that data is protected against unauthorized access, and if the data are accessed by an authorized user, that the data are used only for an authorized purpose.

a. Integrity
c. Availability
b. Compliance
d. Confidentiality

_____ refers to making objects available to a human user or a program to which they have a legitimate right

a. Integrity
c. Availability
b. Compliance
d. Confidentiality

_____ refers to the requirement that information be protected from improper modification. Modification of data includes creation, insertion, updating, changing the status of data, and deletion.

a. Integrity
c. Availability
b. Compliance
d. Confidentiality

A ____ is a named collection of database access privileges that authorize a user to connect to the database and use the database system resources.

a. User
c. Profile
b. Role
d. Manager

A distributed database is composed of several parts known as database ____.

a. Sections
c. Partitions
b. Fragments
d. Parts

____ distributed database systems integrate only one type of centralized DBMS over a network.

a. Homogeneous
c. Fully heterogeneous
b. Heterogeneous
d. Combination

(n) ____ database stores each database fragment at a single site.

a. partially replicated
c. fully replicated
b. Unreplicated
d. Partitioned

Which of the following is NOT part of the generalized model for active database.

a. event

b. condition

c. cascade less

d. action

Relations that support an associated time when the event is true are called

a. bi-temporal

b. valid time

c. transaction time

d. two of the above

Which of the following is NOT a feature of image analysis?

a. size

b. color

c. texture

d. shape

Which if the following is a goal of data mining?

a. generating reports

b. retrieving facts

c. predicting behavior

d. finding erroneous data

An association rule is written in the form.

a. R(a,b)

b. a=>b

c. a|b

d. a=b

An algorithm for finding large itemsets is called _____ algorithm?

a. Cromardi's

b. fast find

c. buchberger's

d. apriori

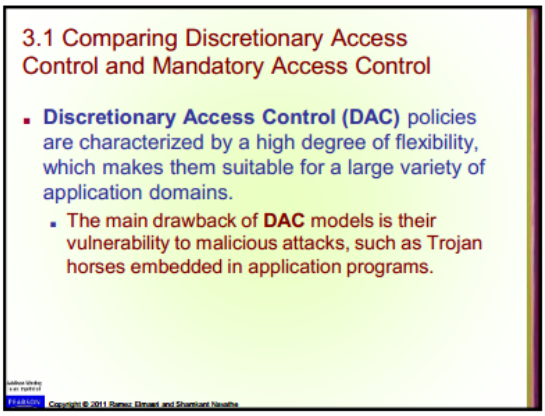
True or False (20 Marks)

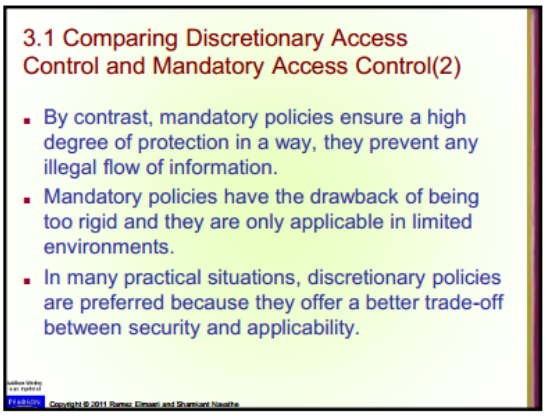
"I didnt remember them for sure :P "

Short Answer Qs (5 questions, each with 6 marks, total with 30 marks)

1- Giving a query, draw the Query Tree (I don't remember the query , from chapter 18)

2- What is the difference between discretionary and mandatory access control?



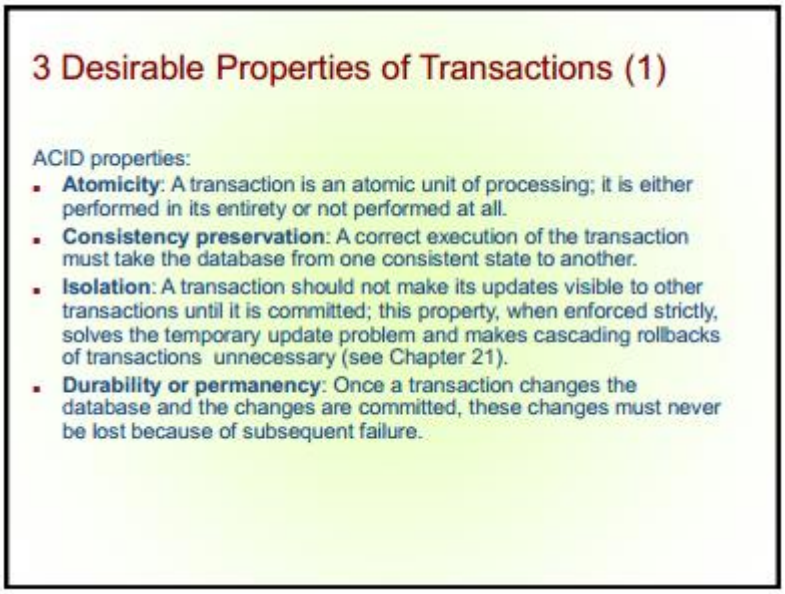


3- What are the different types of spatial data?

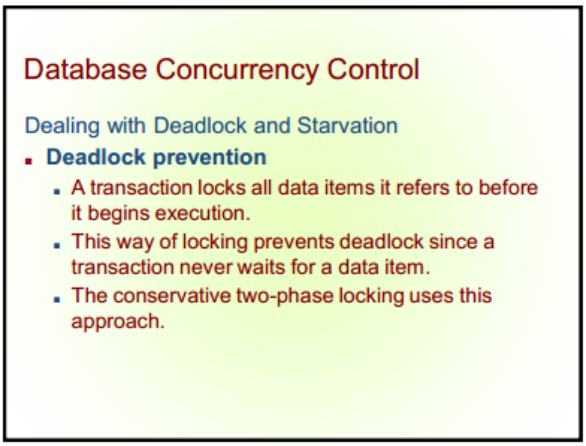
26.3.2 Spatial Data Types and Models
This section briefly describes the common data types and models for storing spatial data. Spatial data comes in three basic forms. These forms have become a de facto standard due to their wide use in commercial systems.
■ Map Data26 includes various geographic or spatial features of objects in a map, such as an object's shape and the location of the object within the map. The three basic types of features are points, lines, and polygons (or areas). Points are used to represent spatial characteristics of objects whose locations correspond to a single 2-d coordinate (x, y, or longitude/latitude) in the scale of a particular application. Depending on the scale, some examples of point objects could be buildings, cellular towers, or stationary vehicles.

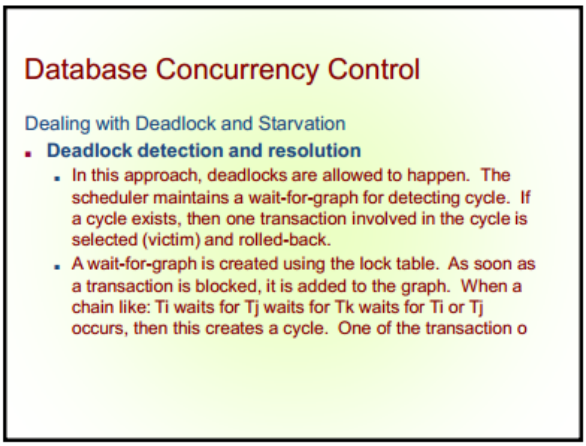
Moving Geographical Information Systems (GIS), and they are used in areas such as environmental applications, transportation systems, emergency response systems, and battle management. Other databases, such as meteorological databases for weather information, are three-dimensional, since temperatures and other meteorological information are related to three-dimensional spatial points. In general, a spatial database stores objects that have spatial characteristics that describe them and that have spatial relationships among them. The spatial relationships among the objects are important, and they are often needed when querying the database. Although a spatial database can in general refer to an n-dimensional space for any n, we will limit our discussion to two dimensions as an illustration.

4- Describe the desirable Properties of Transactions



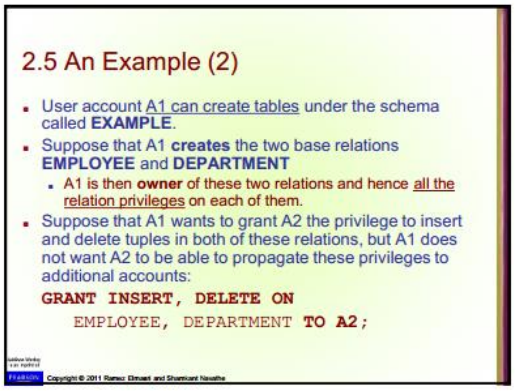
5- Describe the Deadlock prevention approach .

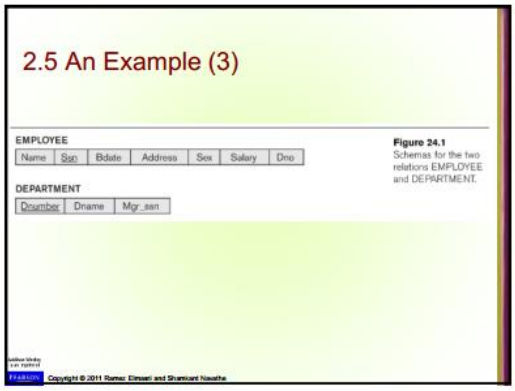


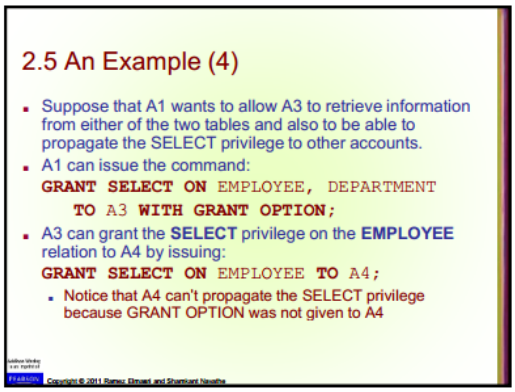


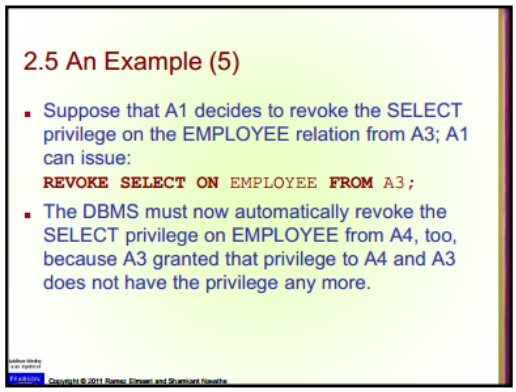
SQL question (3 questions for 10 marks)

Three questions asking about the Grant Privilege as the following slides:









Long Answer Question (1 question for 10 Marks) :

What is the additional function of distributed database over centralized database, list four feature and describe them.

25.1.6 Additional Functions of Distributed Databases

Distribution leads to increased complexity in the system design and implementation. To achieve the potential advantages listed previously, the DDBMS software must be able to provide the following functions in addition to those of a centralized DBMS:

- **Keeping track of data distribution.** The ability to keep track of the data distribution, fragmentation, and replication by expanding the DDBMS catalog.
- **Distributed query processing.** The ability to access remote sites and transmit queries and data among the various sites via a communication network.
- **Distributed transaction management.** The ability to devise execution strategies for queries and transactions that access data from more than one site and to synchronize the access to distributed data and maintain the integrity of the overall database.
- **Replicated data management.** The ability to decide which copy of a replicated data item to access and to maintain the consistency of copies of a replicated data item.
- **Distributed database recovery.** The ability to recover from individual site crashes and from new types of failures, such as the failure of communication links.
- **Security.** Distributed transactions must be executed with the proper management of the security of the data and the authorization/access privileges of users.
- **Distributed directory (catalog) management.** A directory contains information (metadata) about data in the database. The directory may be global for the entire DDB, or local for each site. The placement and distribution of the directory are design and policy issues.

These functions themselves increase the complexity of a DDBMS over a centralized DBMS. Before we can realize the full potential advantages of distribution, we must find satisfactory solutions to these design issues and problems. Including all this additional functionality is hard to accomplish, and finding optimal solutions is a step beyond that.