Database for Web

→ The popularity of www has made database a prime vehicle for disseminating information.

→ There are 3 classes of tasks related to information management on the www

(a) Modeling & querying the web

- We can view web as a directed graph whose nodes are web pages and whose edges are links between pages.
- Queries can be used for retreiving certain pages on the web.
- The queries can be based on the content of desired pages and on the link structure connecting the pages.

(b) Information extraction & integration:

- Certain web sites can be viewed at a finer granularity level than pages as containers of structured data (Eg - Sets of tuples or Sets of objects)
- There are 2 tasks to consider.
- The first task is to actually extract a structured rep. of the data from the HTML pages containing them.
- The second task is addressed by mediator (or data integration systems)

(c) Web Site Construction & Restructuring

- Here we consider the process of creating websites.
- Web sites can be constructed either by starting with some raw data (stored in databases or structured files) or by restructuring existing web sites.

Mobile Databases

→ Mobile databases are separate from the main database and can easily be transported to various places.

→ Even though they are not connected to the main database, they can still communicate with the database to share and exchange data.

→ It includes the following components -

- The main database that stores all the data & is linked to the mobile database
- The mobile database that allows ~~to~~ users to view information even while on the move. It shares information with the main database.
- The device that uses the mobile database to access data. This device can be a mobile phone, laptop, etc.
- A comm^n link that allows the transfer of data b/w the mobile database & the main database.

Database Interoperability

→ Interoperability is the ability of a single application to operate with many different DBMSs.

→ Interoperability is not a simple path followed from "not interoperable" to "completely interoperable".

→ The path has many branches, each requires trade offs among features, speed, code complexity & dev. time.

→ The process of writing an interoperable app follows several steps -

- Deciding whether the application will use database
- Choosing a level of interoperability and deciding which trade-offs are necessary to reach that level.
- Writing interoperable code & testing it fully as possible.