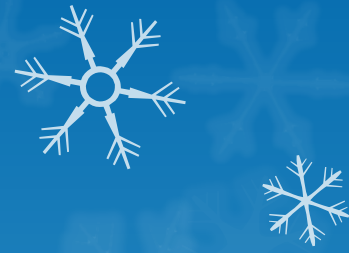


**Course Name:**  
**Database Management**  
**Systems**



# Lecture 4

## Topics to be covered

- ❑ Role of Database Administrator



# Database Administration (DBA)

- DBA is a resource that supervises both the database and the use of the DBMS.
- DBA is usually a group, but sometimes it refers to the database administrator.

# Figure

## Responsibilities of DBA

### FIGURE

.....  
Responsibilities of  
DBA

1. Policy Formulation and Implementation
  - a. Access privileges
  - b. Security
  - c. Disaster planning
  - d. Archives
2. Data Dictionary Management
3. Training
4. DBMS Support
  - a. DBMS evaluation and selection
  - b. DBMS responsibility
5. Database Design

# Policy Formulation and Implementation



## ○ Access Privileges

- Users should access the database only in ways in which they are entitled.

## ○ Security

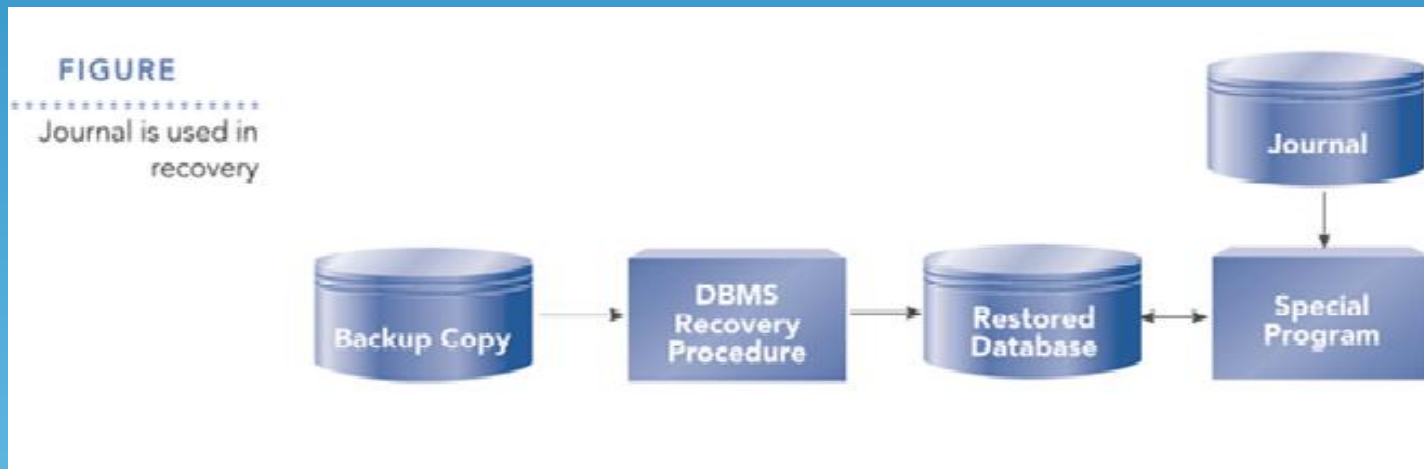
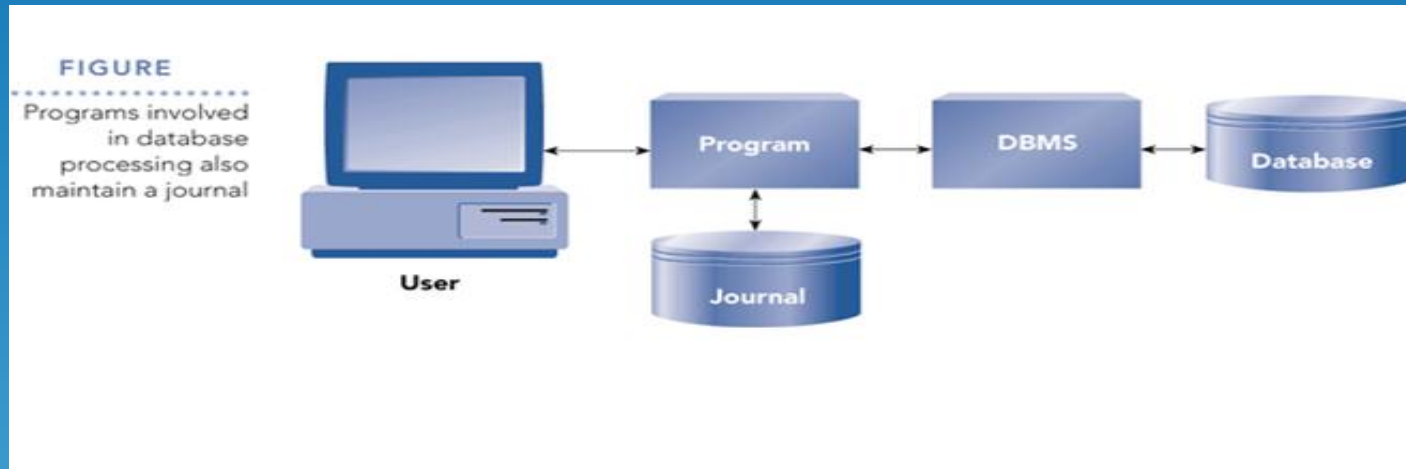
- Access restrictions ensure that the database is secure.
- Passwords, encryption, and views implement security.
- Effective password protection is critical.

# Planning for Disaster



- Databases can be harmed from hardware and software malfunctions, and outside forces like floods and power outages.
- DBA's must take active role in formulating disaster recovery plans.

# Figure Disaster Recovery



# Archives

- An archive is a place where corporate data is kept.
- Information in an archive is removed from the database and stored in the archive for future reference.
- Archives are usually kept in a mass-storage device like a disk, tape, CD, or a DVD.
- It is important such archives be kept off-site to allow recovery should disaster strike



# Data Dictionary Management



- Essentially the catalog, but it contains a wider range of information, including information on tables, fields, indexes, and programs.
- The DBA manages and updates the data dictionary, which establishes naming conventions for tables, fields, etc., and data integrity rules.

# Additional responsibilities of DBA



- Training

- DBA gives training on the DBMS and how to access the database

- DBMS Support

- The DBA is charged with all aspects of a DBMS, including selection and management
- DBA must evaluate each prospective DBMS using a checklist.

- Database design

- DBA is responsible for tuning the design, i.e., making changes that improve system performance.