**Lesson 6**

**Objectives**

* Roles in database environment
  + Data Administrator
  + Database Administrator
  + Database Designer
    - Logical Database Designer
    - Physical Database Designer
  + Application Developers
  + End users

**Data Administrator (DA)**

Associated with management and control of data.

Responsible for the management of data resources including:

* Database planning
* Development
* Maintenance of standards
* Policies and procedures
* Conceptual/logical database design

Data Administrator consults with and advices senior managers

DA ensures direction of database development will ultimately support corporate objectives.

**Database Administrator (DBA)**

Responsible for the physical realization of the database including

* Physical database design and implementation
* Security and integrity control
* Maintenance of the operational system
* Ensuring satisfactory performance of the applications for user

Role of DBA is more technically oriented than the role of DA.

DBA required detailed knowledge of DBMS and the system environment.

**Note**: Basically DA tells what to do and DBA tells how to do (DBA physically realizes the wishes of DA)

**Database Designer**

Database designer can be further categorized as:

* Logical Database Designer
* Physical Database Designer

**Logical Database Designer**

Concerned with indentifying the data (entities & attributes), the relationship between the data, constraints on the data that is to be stored in the database.

* Logical database designer must have a thorough knowledge and complete understanding of the organization’s data and its business rules
  + Business rules describes the main characteristics of the data as viewed by the organization. i.e student cannot take more than 7 courses.
* Logical database designer must involve all prospective database users in the development of the data model (logical database design)
* Logical database designer may develop following two type of database designs
  + Conceptual Database Design
    - Independent of implementation
      * Target DBMS
      * Application Programs
      * Programming Languages
  + Logical Database Design
    - Target specific data models such as relational.

**Physical Database Designer**

Describes how the logical database design is to be physically realized.

* Mapping the logical database design into a set of tupples and integrity constraints.
* Selecting specific storage structures
* Access methods to achieve good performance

**Physical Database Designer**

The person who develop program that provides the required functionality for the end user.

**End Users**

The person who use database. End user can be further categorized as

Naïve User

Unaware of DBMS, unaware database’s structure, some menus provided to him/her.

Sophisticated User

Familiar with structure of database and facilities provided by DBMS. May use SQL.