Explain three schema architecture?

Ans: 3 schema architecture’s goal is to separate the user applications from the physical database.

Schema’s can be divided as

1. **internal view :**

it is the physical representation of the database on the computer

it Is also called as physical schema. It describes every detail on how the data is stored in the database.

There will be only one physical schema for each database.

1. **conceptual view :**

the data base administrator is responsible for managaing the conceptual schema.

It is also called as logical schema.

It deals with what data is stored in the database and the relationships among the data.

It represents the attributes, relations and constraints on the data.

1. **external view :**

it is the users view of the database.

It permits the users to access data in a way that is customized to their needs. The same data can be seen by different users in different ways at the same time.

**4.1 Problem 1**

**Why would you choose a database system instead of simply storing the data in Operating system files?**

A database is an integrated collection of data, usually so large that it has to be stored on secondary storage devices such as disks or tapes. This data can be maintained as a collection of operating system files, or stored in a DBMS.

Database system is used for the following advantages.

1. Data independence and efficient access.
2. Reduced application development time.
3. Data integrity and security.
4. Data administration

### 4.2 Problem 2

**What are the different types of languages supported in database?**

1. **DDL: data definition language**

**it is similar to any programming language, it defines database schema.**

**It is used by database administrator**

**DDL compiler generates a set of tables stored in a data dictionary.**

1. **DML: data manipulation language**

**It supports commands.**

**Commands like insertion,deletion,update,select are performed on the data.**

**There are two types of DML**

1. **procedural DML**
2. **non-procedural DML**

### 4.3 Problem 3

**Who are the different types of users accessing the database and in what way?**

1. **Application Programmers:** These users write application programs to interact with the database. Application programs can be written in some programming language such a COBOL, PL/I, C++, JAVA or some higher level fourth generation language. Such programs access the database by issuing the appropriate request, typically a SQL statement to DBMS.
2. **Sophisticated users/system analyst :** System Analyst determines the requirement of end users, especially naïve and parametric end users and develops specifications for transactions that meet these requirements. System Analyst plays a major role in database design, its properties; the structure prepares the system requirement statement, which involves the feasibility aspect, economic aspect, technical aspect etc. of the system.
3. **Database administrator:** Database Administrator (DBA) is the person which makes the strategic and policy decisions regarding the data of the enterprise, and who provide the necessary technical support for implementing these decisions. Therefore, DBA is responsible for overall control of the system at a technical level. In database environment, the primary resource is the database itself and the secondary resource is the DBMS and related software administering these resources is the responsibility of the Database Administrator (DBA).
4. **End users:** End users are the users, who use the applications developed. End users need not know about the working, database design, the access mechanism etc. They just use the system to get their task done. End users are of two types:

**a) indirect users**

**b) direct users**

### 4.4 Problem 4

**What is a database? What is DBMS?**

database is an organized collection of data or information so that It can be easily accessed, updated or manipulated.

Dbms is a software that manages databases on a computer. Dbms is a computer software program tht that is designed as the means of managing all the databases that are currently connected to your harddrive or network.

Databases can be of many types:

1. Relational database
2. Distributed database
3. Object oriented programming database