

## DATA BASE MANAGEMENT SYSTEM

1) Write the disadvantages of file processing system.

→ Disadvantages of file processing system.

1) Duplicate Data:-

Data is stored more than once in different files, that means duplicate data may occur in all these files since all the files are independent on each other so it is very difficult to overcome this error and if anyone finds this error then it will take time and effort to solve this issue.

2) Inconsistency:-

In file processing System, Various copies of same data may contain different values. Data is not consistent in this System, contain it means if a data item needs to be changed then all the file containing that data need to be modified it may create a risk of out dated values of data.

E.g:- If you change student name in library then his name should be changed in all the departments related to the student.

3) Accessing Anomalies:-

Accessing anomalies means that it is very not easy to access data in a desired or efficient way it takes supervision of department very difficult if a user wants information in a specific manner then he requires creating a program for it.

4) Poor Data Integrity

A collection of data is integrated if it meets certain consistency constraints. A programmer always puts these constraints in the programs by adding some codes. In the file processing systems.

Poor data integrity often arises and it becomes very difficult to add new constraints at ~~that~~ that time.

### 5) Data security :-

Poor data security is the most threatening problem in processing system there is very less security in file system as anyone can easily modify and change the stored in the files. All the users must have same right of accessing data up to a level.

### 6) Atomicity problem:-

Atomicity is required to save the data values, it means that information is completely entered or canceled at any system may fail at any time and at the time it is desired that data should be in a consistent state.

### 7) Wastage of labor and space:-

Labor is very costly in this era and no organization afford wastage of their precious labor file process system needs lots of copied data in different files that cause wastage of labor also maintaining same data again and again leads to wastage of space too.

### 8) Data Isolation:-

Data is isolated in file processing system and data is stored in different files. These files can be in different formats. If you want to extract data from two files you are requirements to which part of the file is needed and how they are related to each other. But still in spite of some many disadvantages, file processing system is still good for small organizations because it does not require costly softwares and programmers to handle it.

2) Discuss any two applications where database management system can be used.

→ The Database management system (DBMS) is defined as a software system that allows the user to define, create and maintain the database and provide controlled access to the data.

It is a collection of programs used for managing structured data and simultaneously it supports different types of users to create, manage, retrieve, update and store information.

### Applications of DBMS

In so many fields, we will use a database management system. Let's see some of the applications where database management system uses.

- Railway Reservation System: - The railway reservation system database plays a very important role by keeping record of ticket booking, train's departure time and arrival status and also gives informations regarding train late to people through the database.
- Banking - Banking is one of the main applications database. As we all know there will be a thousand transactions through banks daily and we are doing this without going to the bank. This is all possible just because of DBMS that manages all the banking transactions.
- Finance : - Now-a-days there are lots of things to do with finance like Storing sales, holding information and finance statement management etc. These all can be done with data data systems.

3) write a short notes on business Rules.

→ To Create actions within an organization environment the description of operations.

- Should be in writing and kept up to date.
- Should be easy to understand.
- As per Company view, the characteristics of data must be described.

### Discovering Business Rules

- Sources of Business rules.

- Policy makers.
- Company managers.
- Written Documentation.
- ✓ Procedures.
- ✓ Standards
- ✓ Operations manuals.
- Direct interviews with end users.
  - Department managers.
  - other stakeholders.
- The data of company's view should be standardize across the enterprise.
- Users and designers must communicate regularly to have the same know-how of data.
- The nature, role and scope of data should be understood by the designer.
- Business processes should be understood by the designer.
- Appropriate relationship participation rules and constraints should be developed by the designer.

- Generally, nouns translate into entities.
- Verbs & translate into relationships among entities.
- Relationships are bidirectional.

Q) What is the importance of data model?

- Data constitute the most basic information units displayed by a system. In general the applications are developed to manage data and to convert the data into information.
- There is a huge importance of data modelling in DBMS because data is viewed in different ways by different people. for ex- in a Company the view of data of the Company manager differs from that of a clerk.
- Being more concerned with data location, formatting and specific reporting requirements, application programmers have yet another view of data.
- Data models organize data for different users as per their requirements.
- Data models are used to facilitate interaction between the designer, the application programmer and the end user.
- A well developed data model can even promote improved understanding of the organization for which the database design is developed.
- Data models are communication tool.

5) Explain the concept of weak entity set.

→ The E-R model consists of entities and relationships between those entities. An entity is nothing but a thing having its own properties. These properties help to differentiate an object from other objects.

- An entity is a thing that exists either physically or logically. An entity may be a physical object such as a book or a car, or a car service, or an activity such as a customer transaction or order for which records need to be kept.

- An entity set is a set of entities which share the same properties. In a company employee is the entity set which has similar properties like Employee-ID, Emp-name, Salary etc.

- There is a difference between an entity and an entity-type. An entity-type is a category. An entity strictly speaking, is an instance of a given entity-type, there are usually many instances of an entity-type.

- There are two types of entities in database management system.

1) Strong Entity or Regular Entity.

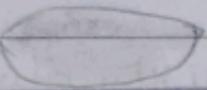
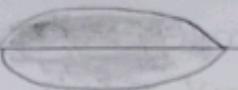
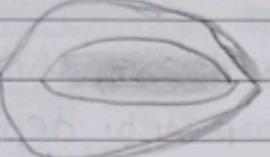
If an entity has its own key attribute specified, then, it is a strong entity. Key attribute is used to identify that entity uniquely among set of entities in entity-set.

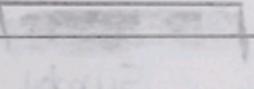
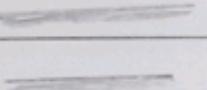
e.g.: - In a parent/child relationship, a parent is considered as a strong entity.

Strong entity is denoted by a single rectangle.

The relation between two strong entities is denoted by a single diamond simply called relations.

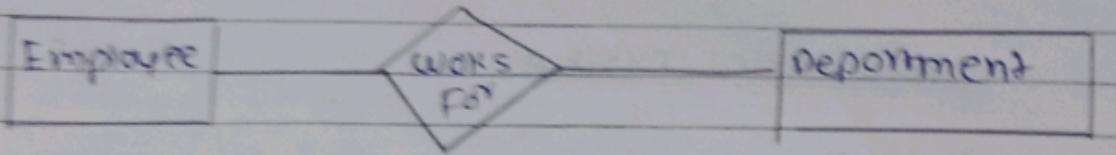
## Attributes:-

	Ellipse	Attribute
	Ellipse with underline	Key Attribute
	Double Ellipse	Multi-valued Attribute
	Dashed Ellipse	Derived Attribute.

Symbol	Symbol Name	Symbol Description
<b>Relationships</b>		
	Diamond	The relationship
	Line	Links attribute to entity Sends to relationship sets.
	double Line	Represents total participation of an entity in relationship set.

## Entity:-

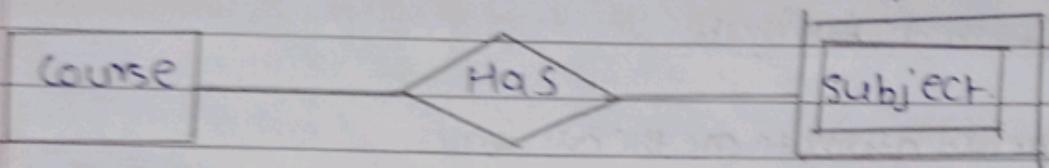
An entity is any object, place, person, or class. In E-R diagram an entity is represented using rectangles. Consider an example of an organization, employee, manager etc are considered as entities.



Here employee and department are entities.

### 2) Weak Entity:-

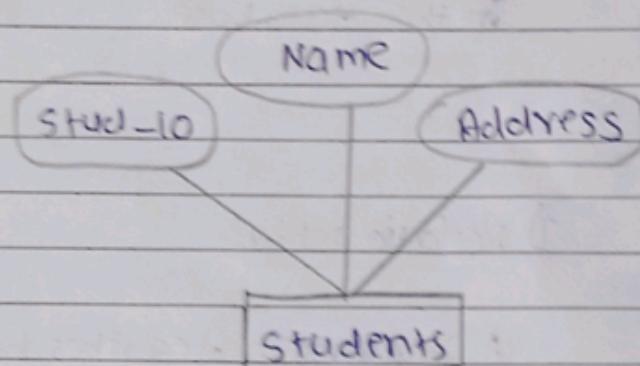
Weak entity is an entity which depends upon another entity.  
 weak entity is represented by double rectangle. subject is the weak entity. Because subject is depends on course.



### 3) Attribute:-

Attribute are nothing but the properties of entity.

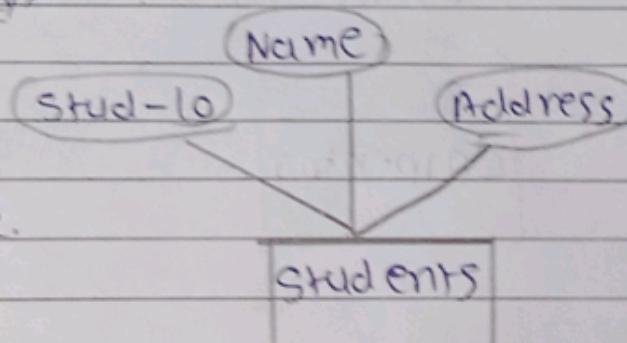
Here Stud-id, Name and address are attributes of entity student.



### 4) Key Attribute(Primary Key):-

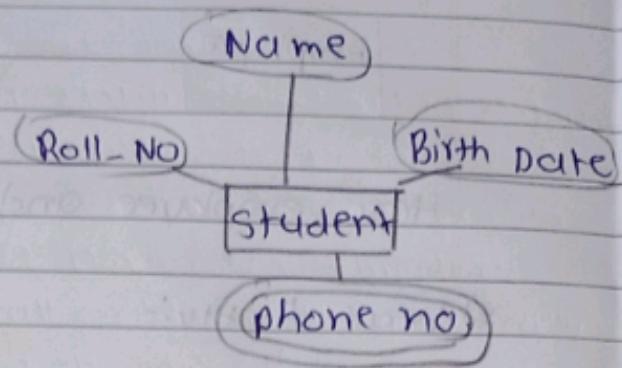
To identify attribute

uniquely we set the key to the attribute. If is denoted by underline.



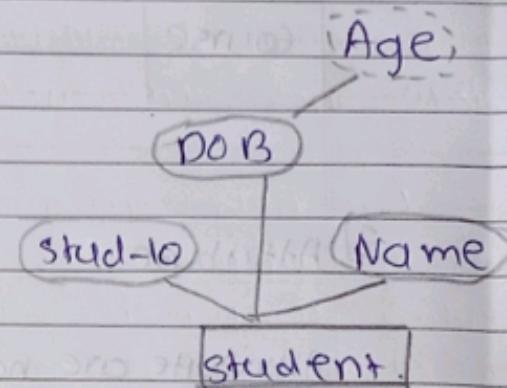
### 5) Multi valued Attribute:

The attribute which <sup>have</sup> multiple values is known as multi valued attribute.



### 6) Derived Attribute:

Derived attribute are the attribute that do not exist physically in the database, but their values can be derived from other attribute present in the database.



### 7) Relationship:

A relationship describes how entities interact with each other  
e.g.;- The entity "Carpenter" may be related to the entity "Table" by the relationship "builds".

Carpenter

Makes

Tables.

2] Generally Weak Entity :-

The entity which does not have any key attribute of its own is known as weak entity, the weak entity has a partial key or discriminator. Weak entity depends on the strong entity for its existence. Weak entity is denoted with the double rectangle.

Example:- In a parent/child relationship a child is considered as a weak entity which is completely depends upon the strong entity 'parent'.

Q) Write various symbols and their meaning used to draw ER diagram.

→ The pictorial representation of data using different conventions which state that how these data are related with each other is known as Entity Relationship Diagram. E-R diagrams express the logical structure of database in graphical manner. Special symbols are used to draw an ER-diagram every symbol has its own meaning.

Example :- of various symbols used in ER Diagram.

Symbol	Symbol Name	Symbol Description
Entities	Rectangle	Entity
	Double rectangle	Weak entity