E-R Diagram Classwork.

1. Disadvantages of file Processing.

1. It is difficult to avoid duplicated values when storing data and solving such error takes time and effort.
2. This system leads to inconsistency in putting data and if data item needs to be changed then all the files containing that data need to be modified. It may create risk of losing data.
3. Poor data security is the most threatening problem in file processing system. There is very less security in file processing system as anyone can easily modify and change the data stored in the files. All the users must have some restriction of accessing

data up to a level.

2. DBMS. The Database Management System is a software for storing and retrieving users’ data while considering appropriate security measures. It consists of programs that helps you manipulate the database; it also provides an interface between the data and the software application. It allows users to create their own databases base on their own requirement.

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| Advantages | Disadvantages |
| 1. DBMS offers a variety of techniques to store and retrieve data. | Cost of hardware and software of a DBMS is quite high which increases the budget of your organization. |
| 2. it serves as an efficient handler to balance the needs of multiple applications using the same data. | Most databases management systems are often complex systems, so the training for users to use the DBMS is require. |
| 3. reduced application development time. | DBMS can’t perform sophisticated calculations. |
| 4. DBMS schedules concurrent access to the data in such a manner that only one user can access the same data at a time. | In some organizations, all data is integrated into single database which can be damaged because of electric failure or database is corrupted on the storage media. |

3. Different Components of DBMS.

* Users
* Database Application
* DBMS
* Database

4. Data Anomalies is an anomality, something that doesn’t fit with the rest of the pattern in the DBMS. This are things that doesn’t fit conventional practice of DBMS.

5. Hierarchical Data Model – This is a data model where the data is represented in a tree-like structure. In this data model, the data is stored in a form of records which are collection of fields, connected through links and each field can contain only one value. Its like a parent to child relationship.

6. A relational database organizes data into rows and columns, which collectively form a table. Data is typically structured across multiple tables, which can be joined together via a primary key or a foreign key. These unique identifiers demonstrate the different relationships which exist between tables, and these relationships are usually illustrated through different types of data models.

7. Entity Relationship Model - This is a graphical approach to database design. This are based on the real-world entities and their relationships. This makes it easy for the developers to understand the system by simply looking at the ER diagram.

8. A table is a structure that organizes data into rows and columns.

The characteristics of a relation are those features that help a relation to be uniquely identified and when followed it will automatically make a relation distinct in a database.

9. Types of Keys available in Relational Model.

* Primary Key
* Candidate key
* Composite key
* Surrogate key
* Foreign key

10. Database Integrity rules is concerned with the maintenance of the correctness and consistency of the data in a multi-user database environment. There are three types of database integrity rules: Domain integrity rules

Entity integrity rules Referential integrity rules

11. TYPES OF JOINS.

* INNER JOIN- this select records that have matching values in both tables as long as the condition is satisfied. It returns the combination of all rows from both the tables where the condition satisfies.
* LEFT OUTER JOIN- this returns all the values from the left table and the matching values from the right table. If there are no matching join value, it will return NULL.
* RIGHT OUTER JOIN- This returns all the values from the rows of the right table and the matching values from the left table. If there are no matching values in both tables, it will return a NULL.
* FULL JOIN- This returns all the values from both tables, irrespective of the join condition. This combines both the left outer join and the right outer join.
* CROSS JOIN- This is the simplest of the joins, it returns all the rows from both tables without any condition, there is no where clause.

12. Functional Dependency- This is a constraint that determines the relation of one attribute to another attribute in DBMS. This helps us to maintain the quality of data in the database. This helps us identify a good and a bad database design, it is denoted with an arrow.

13. CHARACTERISTICS OF A TABLE.

1. it is composed of a row and columns.

2. each row represent a single entity occurrence within the entity set.

3.each column represents an attribute and each column has a distinct name.

4. each row/column intersection represents a single data value.

5. all values in a column must conform to the same data format.

6. each column has a specific range of values known as the attribute domain.

7. the order of the rows and columns is immaterial to the DBMS.

8. each table must have an attribute or a combination of attributes that uniquely identifies each row.

14. Union Rule