**SQL Assignment 1**

1. What is a relational database management system (RDBMS)? What are the advantages of a database management system over a file system?

Ans. RDMS is stands for relational database management system. It’s a software which is used to store, manage, query and retrieve data from a relational database. It’s provided an interface between user & applications & the data base.

Primitive advantage of RDMS is the data sharing capability, due to centralized system data can be share very easily.

Where a file system has a complex process to share files.

Data can be store in a more secure way in RDMS rather than a file system.

In terms of privacy and data access there are adequate option is available in RDMS. In file system such features are not available.

RDMS are more flexible than file system.

1. In a database management system, explain the ACID properties.

Ans. ACID stands for A – Atomicity

C – Consistency

I – Isolation

D – Durability

Atomicity: In a simple way atomicity is either “all or nothing”, it means either entry transactions take place once or doesn’t happen at all. Transactions did not happen in partial way, either transaction will be executed or be abort.

Consistency: Before and after transactions data base integrity constrains must be maintain so that the data base consistency will remain same. It refers the correctness of the data base.

Isolation: This property ensures that there will be no inconsistency of the data base after multiple transactions. Each and every transaction happed independently without any interference.

Durability: This property ensures a complete transaction execution. The update and modification to the database are stored in a non-volatile memory even is the system failure occurs.

1. Explain the concept of normalization.

Ans: Data normalization is process where we organized the data is a similar manner across all records and field, it increases the cohesion of entry type leading to cleansing, lead, generation, segmentation, and higher quality data.

1. Explain the many types of query languages used in relational databases. DQL, DML, DCL, and DDL are some examples.

Ans: DDL: Stands for data definition language, it consists of SQL commands that can use to define data base schema. It consists of CREATE, DROP, ALTER AND TRUNCATE by which we can create, modify, and delete data base structure not the data base.

DML: Stands for data manipulation language, it consists of SQL commands that can use to manipulate the data base. It consists of INSERT, UPTATE, DELETE

& LOCK. By which we can insert, update, delete data from a data base and by lock

We can control table concurrency.

DCL: Stands for data control language, it consists of SQL commands that can use to control the data base. It consists of GRANT & REVOKE which mainly deal with the right and permission of the data base.

DQL: Stands for data query language, it consists of only SELECT command that can be use to query the data from a schema. Select command is use to retrieve or fetch data from a data base.

1. What is the difference between the main key and a composite key? Give instances of how primary key and composite are used.

Ans: Primary or main key and composite key might do the same thing in a data base, but the primary key will consist of one column, where the composite key

Will consist of two or more columns.

A primary or main key is used in a field in a table which uniquely identifies each row/record in a data base. When we use that field information in another table then it will become a foreign key in that table. Using such way, we can relate table in a data base.

A composite key is made by the combination of two or more columns in a table.

That can be used to uniquely identify each row in the table. It upgrades the uniqueness of a record/row.

1. Create a table with a primary key, a column default value, and a column unique constraint in SQL.

Ans.

DROP TABLE IF EXISTS STUDENT\_DETALS

CREATE TABLE STUDENT\_DETAILS (

ID INT UNIQUE,

STUDENT\_NAME VARCHAR(50),

PARENTS\_NAME VARCHAR(50),

ADDRESS VARCHAR(50),

ADMISSION\_DATE DATE,

SCHOOL\_NAME VARCHAR(30) DEFAULT ‘CONVENT’

PRIMARY\_KEY (ID)