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WEB 334 Introduction to NoSQL

Discussion 2.1 Relational Database Management Systems (RDBMS)

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A Relational Database Management System, or RDBMS, is a type of program that is used to update, manage, and create relational databases. The term relationships in regard to relational database management systems means that a situation exists between two or more relational database tables (Google). It is important to understand what a relationship in relational database management systems mean as it helps reduce the amount of time it takes to fetch data from multiple tables at the same time and helps ensure that the data in these databases are consistent and updated (What is a relationship in database? (definition and types)). A primary key is the column or columns that contain values that can be uniquely identified in each row in a table. A primary key is basically a unique identifier that a relational database only has one of. Every row of the data must have a primary key value and none of the rows can be null (Yasar, 2022). When the needs of the users change, the primary key for a database may change depending on what unique identifier is more convenient to use. A primary key should be based on a single attribute or a group of attributes. A primary key helps identify unique data, prevents duplication of records in a table, helps with updating or deleting specific records, and helps ensure fields aren’t null (Yasar, 2022). A primary key can be social security numbers (SSN), vehicle identification numbers (VIN), driver’s license numbers, student IDs, or automatically generated numbers (Yasar, 2022). The best ways to choose the best primary key would be to consider the length, data type, uniqueness, simplicity, relevance, and stability. Foreign keys link two tables together and there can be more than one foreign key in a table (Yasar, 2022). A foreign key can accept a null value and duplicate values can be sorted in a foreign key column. MySQL is a type of database management system with databases that are relational. MySQL is open source, and a MySQL database server is fast, reliable, scalable, and easy to use (MySQL). One of the features that MySQL has is connectivity where clients can connect to a server by using more than one protocol. A client can connect using TCP/IP sockets on any platform and on Windows systems, clients can connect using with “named\_pipe” system variable enabled (MySQL). Windows servers also support shared-memory connections with “shared\_memory” system variable enabled, and clients can also connect through shared-memory by using “--protocol=memory” option (MySQL).

References

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