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Assignment 1.3

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1. In the context of relational databases, what are relationships? Provide an example.

Relationships are logical associations that can be drawn from two different sets of data. For example, one set of data that contains a list of employee names and another that contains a list of employee numbers will have relations that exist between a name and the number that corresponds to them.

1. What are the advantages of relational databases? What are the advantages of NoSQL databases?

Relational databases stores information in tables. This facilitates data manipulation and queries through SQL, a convenient universal language. Relationships between data points are clear. Non-relational databases are not stored in tables and have greater flexibility and potential functions.

1. What are the disadvantages of relational databases? What are the disadvantages of NoSQL databases?
2. The indexes of relational database can occupy excessive amounts of space and can be hard to manage as data increases in size. Non-relational databases do not have a universal language like SQL, and may lack internal consistency with several values for different keys.
3. Identify at least two features of MySQL and two features of MongoDB, and describe what they are and how they are used.

MongoDB:

1. Sharding- splits datasets across various instances to handle more complicated queries, permitting better horizontal scalability.
2. Replication- multiple servers can be relied on to store information in case the primary server fails.

MySQL:

Security- MySQL uses a secure system protected with an encrypted password.

Large database support- can hold up to 50,000,000 records.

Sources:  
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<https://aloa.co/blog/relational-vs-non-relational-database-pros-cons>

<https://www.mongodb.com/features>

https://www.tutorialspoint.com/what-are-the-main-features-of-mysql