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January 13, 2020

INFO 330

Module01: Assignment 01 (Question and Answer)

1. Explain the purpose of a database and give an example of one you deal with in your life.

The purpose of a database is to create an organization system that allows a large amount of data to be effectively accessed, manipulated and updated. An example of a database is the system that is used to keep track of inventory in Safeway. This database would probably have data on Safeway’s products, such as expiry dates, quantity and prices.

1. Explain the benefits of the Relational database design when compared to paper-based system.

In smaller datasets, the benefits of a paper-based system is small. However, in large datasets, accessing, manipulating and updating multiple pieces of information on a paper-based system is cumbersome and inefficient. Furthermore, physical paper-based systems are vulnerable to damage, difficult to transfer and is difficult to scale. Meanwhile, relationship database allows data to be backed-up securely, easily transferred between devices and scaled to enormous levels.

1. Discuss the purpose and benefits of following the normalization process during database design.

Normalization refers to the organization of a database where redundancy is eliminated and all dependencies are logical. The main benefit of normalization is increased performance, since the database takes up the minimum amount of disk space possible. The removal of redundant data makes the database more consistent and easier to maintain.

1. Explain the meaning behind the phrase "The Key, The Whole Key, and Nothing but The Key."

The Third Normal Form indicates that any column must only be determined by the primary key. When you’re managing a database, you have to be mindful that the information in the columns must not be dependant on any information in other columns. Information that is dependent on other columns must be put in other tables. Hence, “The Key, The Whole Key, and Nothing but The Key."

1. Explain the purpose of associative entities and provide an example.

The purpose of an associative entity is to bridge together two tables in a many-to-many relationship. An example would be a table with the SalesID and ProductID. In this example, the Sales table could have information on quantity, customer data and sales date. On the other hand, the Product table could have information on the product name, product price and inventory amount. The associated entity bridges together the Productid and the SalesID in a junction table.