Module 1.3 Assignment

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

Relationships are the connection between items stored in a database. They work like topics with supporting information, where anything that supports/describes the topic, has a relationship to it. The easiest example for this is a supermarket item stored in a database. Carrots at the store may cost a $1.00 a piece and has its nutritional values listed with it. Carrots are our main item, supported by a price label and a description of what it is. All three of these items share the relationship that the three pieces of information are needed for the carrot to be listed at the grocery store.

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

The primary benefit of relational databases is the ease of accessibility. With the setup of each piece of information being it’s own key value, you can easily sort/search an item based on its supporting descriptors. In a workplace database, I could sort my employees by name, occupation, or salary with ease. NoSQL benefits with high scalability and no processing needs. Using just a key value to pull the information of any given item, NoSQL allows for larger, more complex databases to be created.

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

The primary disadvantages of each item flips their benefits. Relational databases may be a great style to organize items by multiple factors, but requires high amounts of processing power to accommodate these complex database entries. NoSQL suffers from the fate of utility. Although this form provides lower processing power, it is more limited on how you can manipulate/sort database entries. Because each key value houses an entries descriptor, you can’t sort the image by a simple method since the information is stored in a single block.

1. Identify at least two features of MySQL and two features of MongoDB, and describe what they are and how they are used.

MySQL hosts a tool called MySQL Workbench. It is a tool developed to provide GUI support so databases can be configured and worked on from a UI standpoint and not just coding. MySQL also features a roll-back tool to assist in undoing any commits you have done or crash events that could occur. MongoDB uses a few unique Relationship methods apart of its program. One feature is called the embedded approach where documents can be stored within documents creating a Russian Doll type product where features can be stored within features. Mongo DB also has a feature for one to many approach where you can house multiple features to a single parent ID.

SUPPORTING RESOURCES:

[How do NoSQL databases work? Simply Explained!](https://www.youtube.com/watch?v=0buKQHokLK8)

[Relational vs. Non-Relational Databases](https://www.youtube.com/watch?v=E9AgJnsEvG4)

[MySQL Features - javatpoint](https://www.javatpoint.com/mysql-features)

[Data Relationships in MongoDB](https://www.studytonight.com/mongodb/relationships-in-mongodb)