Ryan Tighe -- Re-establish an 8/10 on his “missing quiz”

February 3, 2009

Pre-lecture Banter:

+ Quizzes from the last week of January were discussed

 Question 3 from Section 1’s quiz is false.

 + Look at pages 225-226 in the book for the difference between:

 JOIN - may specify like-attributes to “join,” ex. JOIN Student (SID = StudNumb) Class

 EQUIJOIN – MUST join like-attribute tuples

 + Homework 4 is due Thursday 2/5; groups of 3

Lecture:

 Functional Dependencies -- if given element X, we can obtain element Y, we say

 That Y is functionally depenedent on X.

 SKU\_DATA Table (see Feb. 3 slide 18 for table)

 Attributes = SKU, SKU\_Description, Department, Buyer

 Dependencies:

 SKU 🡪 (SKU\_Description, Department, Buyer)

 SKU 🡪 (Department)

SKU 🡪 (SKU\_Description)

SKU 🡪 (Buyer)

SKU\_Description 🡪 (SKU, Department, Buyer)

…

**NOTE—SKU stands for** stock keeping unit

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 Determinant value – unique in a relation iff that value determines every other column

Key – attribute used to sort or identify data

 Candidate Key – a unique key (no repeat elements); possible to use in relation

Primary Key – a unique field that best fits the table, and is the ONLY key used in the relation; this key MAY be composite (composing of multiple attributes)

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LIBRARY EXAMPLE:

 Fiction Novel

 What might some fields be?

 Media (Book, Cassette, DVD) Hard/Papercover

 ISBN – KEY??? Available

 Author Inventory\_Number – KEY??

 Subgenere Category(Adult, Teen, Child)

 Title First Edition (Yes/No)

 Publisher

Fields may start out unique, such as ISBN or Inventory\_Number, however, when the tables get larger, repetitions occur.

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Surrogate Key – an artificial value, such as AutoIndex in Access, used as the initial primary key

Searches using surrogate keys are not very useful because of the meaninglessness of the value.

Foreign Key – primary keys from one table applied to another table to form a relation

\*\*\*IMPORTANT \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Referential integrity constraint— cannot add a foreign key value that is not already a primary key value

 In short: If there is no employee with EID = 4, then (s)he/it cannot have an assigned desk.

Normal form: To get from 2NF -> 3NF, the table must be in 2NF AND no more determinants exist EXCEPT for the primary key

Multivalued dependency – the determinant determines a SET of values; CANNOT be primary key