**James Bailey CSD 310 Module 8 Discussion 8.1 Primary & Foreign keys (Due: June 30, 2022)**

What is a foreign key? Provide an example for how a foreign key might be used. What are the issues associated with using foreign keys?

Foreign Key works alongside the Primary key to prevent the need to update every occurrence of the vendor information if vendor information changes. For example, if the vendor moves or the contact info changes. This helps prevent the need for manually entering a repetitive value for every entry within a database which shares the same data. When data is repeated for example, the vendor information is used with each product, there is a high likelihood that the data will not be entered identically each time. This will cause inconsistent data which is extremely difficult to use sort for reporting.

Issues with using foreign keys are the schema needs to be predetermined prior to needing using them. This is because the foreign key needs to be properly formatted to include both the required database as well as the required foreign key.

This example shows the result of inquiring the vendor’s name, along with the product information.

The former is the sample code for the inquiry, and the latter is the output.

SELECT vend\_name, prod\_name, prod\_price

FROM Vendors, Products

WHERE Vendors.vend\_id = Products.vend\_id;

Output

|  |  |  |
| --- | --- | --- |
| vend\_name | prod\_name | prod\_price |
| Doll House Inc. | Fish bean bag toy | 3.4900 |
| Doll House Inc. | Bird bean bag toy | 3.4900 |
| Doll House Inc. | Rabbit bean bag toy | 3.4900 |
| Bears R Us | 8 inch teddy bear | 5.9900 |
| Bears R Us | 12 inch teddy bear | 8.9900 |
| Bears R Us | 18 inch teddy bear | 11.9900 |
| Doll House Inc. | Raggedy Ann | 4.9900 |
| Fun and Games | King doll | 9.4900 |
| Fun and Games | Queen doll | 9.4900 |

**Foreign Key:** an attribute which can only take the values which are present as values of another attribute to the attribute to which it refers. (This made my eyes cross.) Luckily, there was further information to explain this. Here is the summary of this information. This basically means the foreign key combines two or more relations (table) at a time, as they function as a cross reference between the tables.

Foreign Key can be NULL as well as may contain duplicate tuples i.e., it need not follow uniqueness constraint. This is seen above with the repetition of Doll House Inc., Bears R Us and Fun and Games foreign keys under vend\_name.

**Work Cited:**

“Sams Teach Yourself SQL in 10 Minutes”, Fifth Edition Copyright © 2020 by Pearson Education, Inc.