**SQL Chapter 3 Test**

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Carefully read the processing information that occurs in each of buildings. Complete the *Assignment* section of this document.

**Manufacturing Process**

The manufacturing building has four production lines. Each production line produces a specific cell phone jacket model. Each production line has three production stations that produce the cell phone jackets in one of three colors (black, blue, or pink). The manufacturing process assigns a unique manufacturing number to each jacket. The manufacturing number is composed of numeric digits (09301208254560927) and must be populated with a unique data value. Each cell phone jacket is also assigned a model number and color code. The model number is a combination of alpha characters and numbers (ZXT312) and must be populated with a data value. The color code is composed of alpha characters (BK) and must be populated with a data value.

Four supervisors, each assigned to a particular production line, oversee the manufacturing process. Jackets are manufactured in batches. There are 96 jackets in each batch. It takes two employees to produce a batch. During the manufacturing process, employee numbers are assigned to each batch. The employee number is composed of numeric digits (10001) and must be populated with a data value. A batch number is assigned to each completed batch as it heads for the inspection building via an enclosed overhead conveyor system. The batch number is composed of numeric digits (093012001) and must be populated with a data value.

**Inspection Process**

The inspection building has four inspection lines. Each inspection line inspects a specific cell phone jacket model. Each inspection line has twelve inspection stations. Each inspection station is manned by a single employee.

Two supervisors, each assigned to two inspection lines, oversee the inspection process. Cell phone jackets that pass inspection are packaged in boxes of twenty four, each box containing a unique inspection number, and placed on a pallet. Each pallet holds forty eight boxes. A full pallet is then assigned a unique lot number. The lot number is a combination of alpha characters and numbers (ZXT312093012001BK) and must be populated with a data value. A single employee inspects an entire lot. When a pallet is assigned a lot number, it is considered ready for warehouse storage. Forklifts are used to transport pallets of finished product to the warehouse building. The inspection building has a storage area for cell phone jackets that fail the inspection process. The inspection building depends on the unique manufacturing number assigned during the manufacturing process.

**Warehouse Process**

The warehouse has two isles with fifteen storage bays on each side. Storage bays are stacked three levels high. The rear of the warehouse has a loading dock with two trucks bays. The warehouse has a storage area for finished product that was damaged after leaving the inspection building. The warehouse building depends on the unique lot number assigned during the inspection process.

**Assignment**

Using the ERD provided and the facts stated in this document, design a logical data model for the *Manufacturing*, *Inspection*, and *Warehouse* buildings. It is your task to identify the pertinent data items that are to be included in each logical data model based on the facts described above. I have identified some pertinent data for you by giving you the type of data the column will store accompanied by an example. There are *many* other pertinent data items that you must identify and include in each data model. Identify each data model’s primary key with (PK) following the column description. The primary key must be the first column in each data model. Identify the foreign key in the Inspection data model with (FK) following the column description. Provide meaningful column descriptions and names. Identify the data type as either character or decimal.

**Manufacturing Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Column Description | Column Name | Data Type | Size |
| **Manufacture ID (PK)** | ManId | Decimal | 17,0 |
| Line Number | LineNo | Decimal | 1,0 |
| Model Number | ModelNo | Character | 6 |
| Color Code | ColorCode | Character | 2 |
| Employee Number | EmpNum | Decimal | 9,0 |
| Supervisor Production line | supProdLn | Decimal | 5,0 |
| Batch Number | BatNum | Decimal | 1,0 |
| Station Number | StatNum | Decimal | 1,0 |
| Jacket Number | JackNum | Decimal | 2,0 |

**Inspection Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Column Description | Column Name | Data Type | Size |
| **Manufacture ID (PK)** | ManId | Decimal | 17,0 |
| **Lot Number(FK)** | LotNo | Character | 17 |
| Line Number | LineNo | Decimal | 1,0 |
| Station Number | StationNo | Decimal | 1,0 |
| Inspection Number | InspecNum | Decimal | 20,0 |
| Supervisor Number | SupNum | Decimal | 1,0 |
| Employee Number | EmpNum | Decimal | 5,0 |
| Inspection storage | InspecSto | Decimal | 1,0 |

**Warehouse Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Column Description | Column Name | Data Type | Size |
| **Lot Number(PK)** | LotNo | Character | 17 |
| Isle Number | IsleNo | Decimal | 1,0 |
| Bay Number | BayNo | Decimal | 2,0 |
| Level Number | LevelNo | Decimal | 1,0 |
| Storage Area | StorArea | Character | 10 |

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