Daniel Njoku

1. When asked for my opinion I would explain to Mr. Johnson that he has the some of rudimentary concepts down, however, he is missing a few key elements. The correct table is shown below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** |
| 1 | AC01 | 32808 | 9/13/05 | 754.95 |
| 2 | DB32 | 32808 | 12/3/05 | 380 |
| 3 | DB32 | 37691 | 6/25/05 | 380 |
| 4 | DB33 | 57772 | 5/27/05 | 412.77 |
| 5 | WP08 | 32808 | 1/12/06 | 185 |
| 6 | WP08 | 37691 | 6/15/05 | 227.5 |
| 7 | WP08 | 57222 | 5/27/05 | 170.24 |
| 8 | WP09 | 59836 | 10/30/05 | 35 |
| 9 | WP09 | 77740 | 5/27/05 | 35 |

2.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID** | **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** | **ComputerModel** | **SoftwarePackage** |
| 1 | AC01 | 32808 | 9/13/05 | 754.95 | Apple | Zork |
| 2 | DB32 | 32808 | 12/3/05 | 380 | Apple | Portal |
| 3 | DB32 | 37691 | 6/25/05 | 380 | HP | Portal |
| 4 | DB33 | 57772 | 5/27/05 | 412.77 | Lenovo | Minx |
| 5 | WP08 | 32808 | 1/12/06 | 185 | Apple | Trunks |
| 6 | WP08 | 37691 | 6/15/05 | 227.5 | HP | Trunks |
| 7 | WP08 | 57222 | 5/27/05 | 170.24 | Lenovo | Trunks |
| 8 | WP09 | 59836 | 10/30/05 | 35 | Acer | COD |
| 9 | WP09 | 77740 | 5/27/05 | 35 | Dell | COD |

3. The primary key is be the column labeled ID. The primary keys for the other table are foreign keys for this table; TagNumber & PackageID.

5. Tag Number -> Computer Model

Package ID -> Software Package

Software Package & Computer Model -> Installation Date

Software Package & Computer Model -> Software Cost

6. Third normal form must meet first and second normal form. Also, any fields that aren’t dependent on the primary key must be deleted from the table. In this case it will be the computer model and software packages. The software packages and computer models are the primary keys for both installation dates and software costs

7. Two new tables are created. The will be named packages and computers. The primary key for the packages table will be the package id and the primary key for the computers table will be the tag number.

8. The functional dependencies between the tables will be the same as the functional dependencies from question 5.

9. The new tables are in third normal form because they meet the necessary requirements for first and second normal form. Also, all the tables contain a unique primary key.

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Software

Has

Installation

Contains

Computer