Omar Mahmud

Lab 7 – Normalization Part 1

|  |  |  |  |
| --- | --- | --- | --- |
| **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** |
| AC01 | 32808 | 09-13-2005 | 754.95 |
| DB32 | 32808  37691 | 12-03-2005  06-15-2005 | 380.00  380.00 |
| DB33 | 57772 | 05-27-2005 | 412.77 |
| WP08 | 32808  37691  57222 | 01-12-2006  06-15-2005  05-27-2005 | 185.00  227.50  170.24 |
| WP09 | 59836  77740 | 10-30-2005  05-27-2005 | 35.00  35.00 |

1. I think the collection of data is thorough, I just think there might be better ways to display this data to make everything more consistent and less confusing. Like there are tag numbers that are the same for different packages, and same dates of installation.

|  |  |  |  |
| --- | --- | --- | --- |
| **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** |
| AC01 | 32808 | 09-13-2005 | 754.95 |
| DB32 | 32808 | 12-03-2005 | 380.00 |
| DB32 | 37691 | 06-15-2005 | 380.00 |
| DB33 | 57772 | 05-27-2005 | 412.77 |
| WP08 | 32808 | 01-12-2006 | 185.00 |
| WP08 | 37691 | 06-15-2005 | 227.50 |
| WP08 | 57222 | 05-27-2005 | 170.24 |
| WP09 | 59836 | 10-30-2005 | 35.00 |
| WP09 | 77740 | 05-27-2005 | 35.00 |

1. The Primary Key is the PackageID

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** | **SoftwareName** | **ComputerModel** |
| AC01 | 32808 | 09-13-2005 | 754.95 | Adobe Studio 6 | MacBook Pro |
| DB32 | 32808 | 12-03-2005 | 380.00 | Microsoft Office | MacBook Pro |
| DB32 | 37691 | 06-15-2005 | 380.00 | Microsoft Office | Lenovo T540 |
| DB33 | 57772 | 05-27-2005 | 412.77 | Oracle | Gateway NV52 |
| WP08 | 32808 | 01-12-2006 | 185.00 | Zork | MacBook Pro |
| WP08 | 37691 | 06-15-2005 | 227.50 | Zork | Lenovo T540 |
| WP08 | 57222 | 05-27-2005 | 170.24 | Zork | Gateway NV52 |
| WP09 | 59836 | 10-30-2005 | 35.00 | VirtualDJ Pro | MacBook Air |
| WP09 | 77740 | 05-27-2005 | 35.00 | VirtualDJ Pro | Lenovo Yoga 3 |

1. Add two columns
2. Identify functional dependencies

Software Name

SoftwareCostUSD

PackageID

TagNumber

ComputerModel

1. This isn’t in 3NF because the table would show not show the computer models in the table—that would be a different table. The first table would include the tag number, and then a separate table would show the tag number with the associated computer model. There are two primary key’s in this table and the non-prime attributes are not all dependent on them.
2. ***3NF***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** | **SoftwareName** |
| AC01 | 32808 | 09-13-2005 | 754.95 | Adobe Studio 6 |
| DB32 | 32808 | 12-03-2005 | 380.00 | Microsoft Office |
| DB32 | 37691 | 06-15-2005 | 380.00 | Microsoft Office |
| DB33 | 57772 | 05-27-2005 | 412.77 | Oracle |
| WP08 | 32808 | 01-12-2006 | 185.00 | Zork |
| WP08 | 37691 | 06-15-2005 | 227.50 | Zork |
| WP08 | 57222 | 05-27-2005 | 170.24 | Zork |
| WP09 | 59836 | 10-30-2005 | 35.00 | VirtualDJ Pro |
| WP09 | 77740 | 05-27-2005 | 35.00 | VirtualDJ Pro |

|  |  |
| --- | --- |
| **TagNumber** | **ComputerModel** |
| 32808 | MacBook Pro |
| 37691 | Lenovo T540 |
| 57772 | Gateway NV52 |
| 59836 | MacBook Air |
| 77740 | Lenovo Yoga 3 |

***Identify Primary Keys***

Primary Key: PackageID

Primary Key: TagNumber

1. Identify functional dependencies

Software Name

PackageID

ComputerModel

TagNumber

SoftwareCostUSD

InstallDate

PackageID

TagNumber

1. The new tables are in 3NF because now the functional dependences are apparent in the tables. The package ID wasn’t unique for the computer models. Now, their in a table in which the Tag Number is unique to the computer model

10. 