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 | 37696 | 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  37691 | 12-03-2005  06-15-2005 | 380.00  380.00 | Microsoft Office  Microsoft Office | MacBookPro  Lenovo T540 |
| DB33 | 57772 | 05-27-2005 | 412.77 | Oracle | Gateway NV52 |
| WP08 | 32808  37691  57222 | 01-12-2006  06-15-2005  05-27-2005 | 185.00  227.50  170.24 | Zork  Zork  Zork | MacBookPro  Lenovo T540  Gateway NV52 |
| WP09 | 59836  77740 | 10-30-2005  05-27-2005 | 35.00  35.00 | VirtualDJ Pro  VirtualDJ Pro | MacBook Air  Lenovo Yoga 3 |

1. Add two columns

Software Name

SoftwareCostUSD

1. Identify functional dependencies

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.

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

1. ***3NF***

|  |  |
| --- | --- |
| **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. 