Amelia Beckham 10/22/13

DBMGMT Normalization HW 1

**Part 1**

I would say the data needs to be normalized.

|  |  |  |  |
| --- | --- | --- | --- |
| **PackageID** | **TagNumber** | **InstallDate** | **SoftwareCostUSD** |
| DB32 | 32808 | 12/3/2005 | 380.00 |
| AC01 | 32808 | 9/13/2005 | 754.95 |
| WP08 | 32808 | 1/12/2006 | 185.00 |
| DB32 | 37691 | 6/15/2005 | 380.00 |
| WP08 | 37691 | 6/15/2005 | 227.50 |
| DB33 | 57772 | 5/27/2005 | 412.77 |
| WP08 | 57772 | 5/27/2005 | 170.24 |
| WP09 | 77740 | 5/27/2005 | 35.00 |
| WP09 | 59836 | 10/30/2005 | 35.00 |

The primary key is a composite key of PackageID and TagNumber

**Part 2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **PackageID** | **PackageName** | **TagNumber** | **ComputerModel** | **InstallDate** | **SoftwareCostUSD** |
| AC01 | Portal | 32808 | Apple MacBook Pro | 9/13/2005 | 754.95 |
| DB32 | Space Invaders | 32808 | Apple MacBook Pro | 12/3/2005 | 380.00 |
| DB32 | Space Invaders | 37691 | Honeywell 316 | 6/15/2005 | 380.00 |
| WP08 | Goldeneye 007 | 37691 | Honeywell 316 | 6/15/2005 | 227.50 |
| DB33 | Defenders | 57772 | Toshiba Satellite | 5/27/2005 | 412.77 |
| WP08 | Goldeneye 007 | 57222 | HP Pavilion | 5/27/2005 | 170.24 |
| WP09 | Half Life | 77740 | IBM Thinkpad | 5/27/2005 | 35.00 |
| WP08 | Goldeneye 007 | 32808 | Apple MacBook Pro | 1/12/2006 | 185.00 |
| WP09 | Half Life | 59836 | Falcon DRX | 10/30/2005 | 35.00 |

The functional dependences are: PackageID and SoftwareName, TagNumber and ComputerModel.

It is not in 3rd normal form because it uses a composite key as its primary key.

**Part 3**

Table Name**: Software** Table Name**: Computers**

|  |  |
| --- | --- |
| **TagNumber** | **ComputerModel** |
| 32808 | Apple MacBook Pro |
| 37691 | Honeywell 316 |
| 57772 | Toshiba Satellite |
| 57222 | HP Pavilion |
| 77740 | IBM Thinkpad |
| 59836 | Falcon DRX |

|  |  |
| --- | --- |
| **PackageID** | **PackageName** |
| ACO1 | Portal |
| DB32 | Space Invaders |
| WP08 | Goldeneye 007 |
| DB33 | Defenders |
| WP09 | Half Life |

Table Name**: Installations**

|  |  |  |  |
| --- | --- | --- | --- |
| **InstallDate** | **ComputerModel** | **PackageName** | **InstallNumber** |
| 9/13/2005 | Apple MacBook Pro | Portal | 1 |
| 12/3/2005 | Apple MacBook Pro | Space Invaders | 2 |
| 6/15/2005 | Honeywell 316 | Space Invaders | 3 |
| 6/15/2005 | Honeywell 316 | Goldeneye 007 | 4 |
| 5/27/2005 | Toshiba Satellite | Defenders | 5 |
| 5/27/2005 | HP Pavilion | Goldeneye 007 | 6 |
| 5/27/2005 | IBM Thinkpad | Half Life | 7 |
| 1/12/2006 | Apple MacBook Pro | Goldeneye 007 | 8 |
| 10/30/2005 | Falcon DRX | Half Life | 9 |

Table Name: **Costs**

|  |  |  |  |
| --- | --- | --- | --- |
| **PackageName** | **ComputerModel** | **SoftwareCostUSD** | **CostNumber** |
| Portal | Apple MacBook Pro | 754.95 | 1A |
| Space Invaders | Apple MacBook Pro | 380.00 | 2B |
| Space Invaders | Honeywell 316 | 380.00 | 3C |
| Goldeneye 007 | Honeywell 316 | 227.5 | 4D |
| Defenders | Toshiba Satellite | 412.77 | 5E |
| Half Life | IBM Thinkpad | 35.00 | 6F |
| Goldeneye 007 | HP Pavilion | 170.24 | 7G |
| Goldeneye 007 | Apple MacBook Pro | 185.00 | 8H |
| Half Life | Falcon DRX | 35.00 | 9I |

Note: SoftwareCostUSD depends on ComputerModel *and* PackageName

1. The primary keys for my tables are
   1. PackageID for Software,
   2. TagNumber for Computers,
   3. InstallNumber for Installations,
   4. CostNumber for Costs.
2. The functional dependences for each table are;
   1. In Software – PackageID and PackageName
   2. In Computers - TagNumber and ComputerModel
   3. In Installations - Date, ComputerModel and PackageName
   4. In Costs – PackageName, ComputerModel and SoftwareCostUSD

1. The new table are in 3rd normal form since each one has a whole, primary key.

|  |  |
| --- | --- |
| **TagNumber** | **ComputerModel** |
| 32808 | Apple MacBook Pro |
| 37691 | Honeywell 316 |
| 57772 | Toshiba Satellite |
| 57222 | HP Pavilion |
| 77740 | IBM Thinkpad |
| 59836 | Falcon DRX |

|  |  |  |  |
| --- | --- | --- | --- |
| **InstallDate** | **ComputerModel** | **PackageName** | **InstallNumber** |
| 9/13/2005 | Apple MacBook Pro | Portal | 1 |
| 12/3/2005 | Apple MacBook Pro | Space Invaders | 2 |
| 6/15/2005 | Honeywell 316 | Space Invaders | 3 |
| 6/15/2005 | Honeywell 316 | Goldeneye 007 | 4 |
| 5/27/2005 | Toshiba Satellite | Defenders | 5 |
| 5/27/2005 | HP Pavilion | Goldeneye 007 | 6 |
| 5/27/2005 | IBM Thinkpad | Half Life | 7 |
| 1/12/2006 | Apple MacBook Pro | Goldeneye 007 | 8 |
| 10/30/2005 | Falcon DRX | Half Life | 9 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PackageName** | **ComputerModel** | **SoftwareCostUSD** | **CostNumber** |
| Portal | Apple MacBook Pro | 754.95 | 1A |
| Space Invaders | Apple MacBook Pro | 380.00 | 2B |
| Space Invaders | Honeywell 316 | 380.00 | 3C |
| Goldeneye 007 | Honeywell 316 | 227.5 | 4D |
| Defenders | Toshiba Satellite | 412.77 | 5E |
| Half Life | IBM Thinkpad | 35.00 | 6F |
| Goldeneye 007 | HP Pavilion | 170.24 | 7G |
| Goldeneye 007 | Apple MacBook Pro | 185.00 | 8H |
| Half Life | Falcon DRX | 35.00 | 9I |

|  |  |
| --- | --- |
| **PackageID** | **PackageName** |
| ACO1 | Portal |
| DB32 | Space Invaders |
| WP08 | Goldeneye 007 |
| DB33 | Defenders |
| WP09 | Half Life |