Lab 7: Normalization part 1

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4/6/16

1.

    a. When he asks me what I think of it, I tell him that it is a great start and praise it to keep his mood up.

    b.

| PackageID | TagNumber | InstallDate | SoftwareCostUSD |
|---|---|---|---|
| AC01 | 32808 | 9/13/2005 | 754.95 |
| DB32 | 32808 | 12/3/2005 | 380 |
| DB32 | 37691 | 6/15/2005 | 380 |
| DB33 | 57772 | 5/27/2005 | 412.77 |
| WP08 | 32808 | 1/12/2006 | 185 |
| WP08 | 37691 | 6/15/2005 | 227.5 |
| WP08 | 57222 | 5/27/2005 | 170.24 |
| WP09 | 59536 | 10/30/2005 | 35 |
| WP09 | 77740 | 5/27/2005 | 35 |

    c. The primary key is {PackageID, TagNumber}

2.

    a.

| PackageID | TagNumber | InstallDate | SoftwareCostUSD | SoftwareName | ComputerModel |
|---|---|---|---|---|---|
| AC01 | 32808 | 9/13/2005 | 754.95 | Zork | Lenovo |
| DB32 | 32808 | 12/3/2005 | 380 | Portal | Apple |
| DB32 | 37691 | 6/15/2005 | 380 | Portal | IBM |
| DB33 | 57772 | 5/27/2005 | 412.77 | DOTA | Apple |
| WP08 | 32808 | 1/12/2006 | 185 | D&D | Lenovo |
| WP08 | 37691 | 6/15/2005 | 227.5 | D&D | IBM |
| WP08 | 57222 | 5/27/2005 | 170.24 | D&D | Lenovo |
| WP09 | 59536 | 10/30/2005 | 35 | Sims | Lenovo |
| WP09 | 77740 | 5/27/2005 | 35 | Sims | IBM |

    b. PackageID → SoftwareName
       TagNumber → ComputerModel
       {PackageID, TagNumber} → SoftwareCostUSD, Install Date

    c. This is not in third normal form because it has multiple key dependencies

3.

a.

| PackageID | Software Name |
|-----------|---------------|
| AC01 | Zork |
| DB32 | Portal |
| DB33 | DOTA |
| WP08 | D&D |
| WP09 | Sims |

| TagNumber | ComputerModel |
|-----------|---------------|
| 32808 | Lenovo |
| 37691 | IBM |
| 57772 | Apple |
| 57222 | Lenovo |
| 59536 | Lenovo |
| 77740 | IBM |

| OrderID | PackageID | TagNumber | InstallDate | SoftwareCostUSD |
|---------|-----------|-----------|-------------|-----------------|
| 1 | AC01 | 32808 | 9/13/2005 | 754.95 |
| 2 | DB32 | 32808 | 12/3/2005 | 380 |
| 3 | DB32 | 37691 | 6/15/2005 | 380 |
| 4 | DB33 | 57772 | 5/27/2005 | 412.77 |
| 5 | WP08 | 32808 | 1/12/2006 | 185 |
| 6 | WP08 | 37691 | 6/15/2005 | 227.5 |
| 7 | WP08 | 57222 | 5/27/2005 | 170.24 |
| 8 | WP09 | 59536 | 10/30/2005 | 35 |
| 9 | WP09 | 77740 | 5/27/2005 | 35 |

The primary keys are PackageID, TagNumber, and OrderID

b. PackageID → SoftwareName
TagNumber → Computer Model
OrderID → PackageID, TagNumber, InstallDate, SoftwareCostUSD

c. These are in 3NF because they follow all of the rules for 2NF and there are no multiple key dependencies

d.