**1.**

**a)** I am going to tell him that he has done a great job but we need to fix little thing. We have to isolate data and we have to make it in 1NF.

**b)**

|  |  |  |  |
| --- | --- | --- | --- |
| 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 | 59536 | 10-30-2005 | 35.00 |
| WP09 | 77740 | 05-27-2005 | 35.00 |

**c)** PackageID and InstallDate are composite primary key.

**2.**

**a)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| PackageID | TagNumber | InstallDate | SoftwareCostUSD | SoftwarePackageName | ComputerModel |
| AC01 | 32808 | 09-13-2005 | 754.95 | Zork | Apple |
| DB32 | 32808 | 12-03-2005 | 380.00 | Portal | IBM |
| DB32 | 37691 | 06-15-2005 | 380.00 | Zork | IBM |
| DB33 | 57772 | 05-27-2005 | 412.77 | Zork | Apple |
| WP08 | 32808 | 01-12-2006 | 185.00 | Portal | Apple |
| WP08 | 37691 | 06-15-2005 | 227.50 | Zork | IBM |
| WP08 | 57222 | 05-27-2005 | 170.24 | Portal | Apple |
| WP09 | 59536 | 10-30-2005 | 35.00 | Portal | IBM |
| WP09 | 77740 | 05-27-2005 | 35.00 | Zork | Apple |

**C)** The table is not in third normal form because it is not in second normal form and there is only partial key dependencies.

**3.**

**a)** TagNumber, PackageID are primary keys.

**b)** PackageID - SoftwareName

TagNumber – ComputerModel

(PackageID, TagNumber) – InstallDate. SoftwareCostUSD

**c)** The new tables in third form because this is in second normal form and have multiple dependencies.

**d)** ER diagram

