Zack Meath – Normalization Homework 1

Part 1:

1. I would say that the way they are organizing that data could potentially be confusing, especially if the amount of data increases.
2.

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	37961	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

3. The primary key is (PackageID, TagNumber)

Part 2:

1.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	SoftwareName	ComputerModel
AC01	32808	09-13-2005	$754.95	vSphere	Apple
DB32	32808	12-03-2005	$380.00	pgAdmin	Apple
DB32	37691	06-15-2005	$380.00	pgAdmin	Dell
DB33	57772	05-27-2005	$412.77	PuTTY	Dell
WP08	32808	01-12-2006	$185.00	VirtualBox	Apple
WP08	37691	06-15-2005	$227.50	VirtualBox	Dell
WP08	57222	05-27-2005	$170.24	VirtualBox	HP
WP09	59836	10-30-2005	$35.00	FileZilla	Apple
WP09	77740	05-27-2005	$35.00	FileZilla	HP

2. Functional Dependancies:
   1. The InstallDate depends on the PackageID and TagNumber
   2. The SoftwareCostUSD depends on PackageID, TagNumber, and InstallDate
   3. The SoftwareName depends on just PackageID
   4. The ComputerModel depends on TagNumber
3. This table is not 3NF because the elements in the table do not all reflect the whole key and nothing but the key

Part 3:

1.

Computers:

TagNumber (PK)	Model
32808	Apple
37691	Dell
57772	Dell
57222	HP
59836	Apple
77740	HP

Software:

PackageID (PK)	Name
AC01	vSphere
DB32	pgAdmin
DB33	PuTTY
WP08	VirtualBox
WP09	FileZilla

ComputerSoftware:
The primary key is PackageID and TagNumber

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

2.Functional Dependancies:
1. Model depends on its primary key, TagNumber
2. Name (software name) depends on its primary key, PackageID
3. InstallDate depends on PackageID and TagNumber
4. SoftwareCostUSD depends on PackageID, TagNumber, and InstallDate

3.The new tables are in 3NF because every element is a fact about the whole primary key and nothing but the key.