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Database Management
Normalization Homework 1

Part 1:

1. After first looking at the spreadsheet I would say that it's great that you're keeping records! What you have now works, but we can make it easier to look up the information that you need.
- 2.

PackageID	TagNumber	InstallDate	SoftwareCostUSD
AC01	32808	9/13/05	754.95
DB32	32808	12/3/05	380.00
DB32	37691	6/15/05	380.00
DB33	57772	5/27/05	412.77
WP08	32808	1/12/06	185.00
WP08	37691	6/15/05	227.50
WP08	57222	5/27/05	170.24
WP09	59836	10/30/05	35.00
WP09	77740	5/27/05	35.00

3. The primary keys are PackageID & TagNumber

Part 2:

- 1.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	SoftwarePackage	CompModel
AC01	32808	9/13/05	754.95	Office	Dell
DB32	32808	12/3/05	380.00	OS Mavericks	Apple
DB32	37691	6/15/05	380.00	OS Mavericks	Apple
DB33	57772	5/27/05	412.77	Windows 8	HP
WP08	32808	1/12/06	185.00	MySQL	HP
WP08	37691	6/15/05	227.50	MySQL	Lenovo
WP08	57222	5/27/05	170.24	MySQL	Emachine
WP09	59836	10/30/05	35.00	PGAdmin	Dell
WP09	77740	5/27/05	35.00	PGAdmin	Acer

2. Functional Dependencies:

PackageID → Software Package

Tag Number → Computer Model

PackageID, TagNumber → InstallDate, SoftwareCostUSD

3. This table not in third normal form because there are many partial and multiple key dependences. Some of the columns are not dependent on the primary keys that make up the composite key. For example ComputerModel is dependent on TagNumber but not PackageID, in addition SoftwarePackageName is dependent on PackageID but not TagNumber. This makes for a giant headache when trying to query information.

Part 3:

1. Packages Primary Key: PackageID

Computers Primary Key: TagNumber

Installations Primary Key: (PackageID, TagNumber)

2. Packages: PackageID → SoftwarePackage

Computers: TagNumber → CompModel

Installations: PackageID, TagNumber → SoftwareCostUSD

3. This table is in third normal form because the attributes of the tables depend on nothing but the keys, and there are no partial or multiple key dependencies. The computer model is fully dependent on the tag number, software is dependent on the package ID, and install date/ software cost both rely on the package ID and tag number.

4.

