

## Normalization Homework #1

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### Part One

1. This is a good outline for what you need to keep track of. When we are done you will be able to see the same information but have more structure around it.

2.

Update			
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

3. The Primary key is (PackageID, TagNumber)

### Part Two

1.

Update					
PackageID	TagNumber	InstallDate	SoftwareCostUSD	SoftwareName	ComputerModel
AC01	32808	09-13-2005	754.95	Elmo	HP
DB32	32808	12-03-2005	380.00	Big Bird	HP
DB32	37691	06-15-2005	380.00	Big Bird	Apple
DB33	57772	05-27-2005	412.77	Bernie	HP
WP08	32808	01-12-2006	185.00	Cookie Monster	HP
WP08	37691	06-15-2005	227.50	Cookie Monster	Apple
WP08	57222	05-27-2005	170.24	Cookie Monster	HP
WP09	59836	10-30-2005	35.00	Grouch	Apple
WP09	77740	05-27-2005	35.00	Grouch	Apple

2.

TagNumber -> ComputerModel

PackageID -> SoftwareName

PackageID, TagNumber -> InstallDate, SoftwareCostUSD

3.

It is not third normal form because there are partial dependencies which violate 2NF. For example Software Name is dependent on PackageID which is part of the primary key.

### Part Three

1.

Tag Table -> TagNumber

Package Table -> PackageID

Update Table -> (PackageID, TagNumber)

2.

TagNumber -> ComputerModel

PackageID -> SoftwareName

PackageID, TagNumber -> InstallDate, SoftwareCostUSD

3.

It is third normal form because there are no partial dependencies as seen in the model before.

Because you need both the packageID and TagNumber in order to get the InstallDate and SoftwareCostUSD. Because packageID, has duplicates, but when combined with a specific tagNumber which also has duplicates, it allows for the specific InstallDate and SoftwareCostUSD. The ComputerModel is only dependent on the TagNumber, The SoftwareName is only dependent on the PackageID. These multiple tables allow for no multiple dependences which satisfies 2NF and no partial dependences which satisfies 3NF.

4.

Tag	
TagNumber	ComputerModel



Update			
PackageID	TagNumber	InstallDate	SoftwareCostUSD



Package	
PackageID	SoftwareName