

1. *Wow. You've done a great job so far.* But, I can see a few areas where I can add a lot of potential to this.

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	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 the composite (PackageID, TagNumber)

4.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	PackageName	CPUModel
AC01	32808	09-13-2005	754.95	Zork	IBM
DB32	32808	12-03-2005	380.00	Portal	IBM
DB32	37691	06-15-2005	380.00	Portal	HP
DB33	57772	05-27-2005	412.77	Funky	ASUS
WP08	32808	01-12-2006	185.00	Groovy	IBM
WP08	37691	06-15-2005	227.50	Groovy	HP
WP08	57222	05-27-2005	170.24	Groovy	Model
WP09	59836	10-30-2005	35.00	Spooky	Apple
WP09	77740	05-27-2005	35.00	Spooky	Google

5. (PackageID, TagNumber) -> InstallDate

(PackageID, TagNumber) -> SoftwareCostUSD

TagNumber -> CPUModel

PackageID -> PackageName

6. This new table is not in 3NF because there are multiple key dependencies.

7. The primary keys for Software table is PackageID, Link table is (PackageID, TagNumber), and Tag table is TagNumber.

8. Software Table

PackageID -> PackageName

Link Table

(PackageID, TagNumber) -> SoftwareCostUSD, InstallDate

Tag Table

TagNumber -> CPUModel

9. They are in 3NF because they are in 1NF (all intersections of rows and columns are atomic) and 2NF (no partial key dependencies) and there are no multiple key dependencies.

Software

PackageID	PackageName
AC01	Zork
DB32	Portal
DB32	Portal
DB33	Funky
WP08	Groovy
WP08	Groovy
WP08	Groovy
WP09	Spooky
WP09	Spooky

Link

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

Tag

TagNumber	CPUModel
32808	IBM
32808	IBM
37691	HP
57772	ASUS
32808	IBM
37691	HP
57222	Model
59836	Apple
77740	Google