

Part One:

1. Upon receiving the spreadsheet from my client I would thank him for the data but would explain that to him that I would have to redesign the structure of his spreadsheet because it violates 1NF because the value of each attribute contains more than a single value from each domain.
- 2.

PackageID	TagNum	InstallDate	SoftwareCost
AC01	32808	09-13-1995	754.95
DB32	32808	12-03-1995	380.00
DB32	37691	06-15-1995	380.00
DB33	57772	05-27-1995	412.77
WP08	32808	01-12-1996	185.00
WP08	37691	06-15-1995	227.50
WP08	57222	05-27-1995	170.24
WP09	59836	10-30-1995	35.00
WP09	77740	15-27-1995	35.00

3. The primary key is {PackageID,TagNum}

Part Two:

- 4.

PackageID	TagNum	InstallDate	SoftwareCost	SoftwarePackage Name	CompModel
AC01	32808	09-13-1995	754.95	Warcraft 3	HP
DB32	32808	12-03-1995	380.00	Starcraft	HP
DB32	37691	06-15-1995	380.00	Starcraft	Sony
DB33	57772	05-27-1995	412.77	Starcraft 2	Apple
WP08	32808	01-12-1996	185.00	Titan Fall	HP
WP08	37691	06-15-1995	227.50	Titan Fall	Sony
WP08	57222	05-27-1995	170.24	Titan Fall	Lenovo
WP09	59836	10-30-1995	35.00	Tetris	Lenovo
WP09	77740	15-27-1995	35.00	Tetris	Lenovo

5. SofatwarePackageName is dependent on PackageID. CompModel is dependent on TagNum.
6. This is not in 3NF because certain columns in the table are dependent on other columns. In 3NF these fields would be in a separate table.

Part 3:

T1.

PackageID	TagNum	InstallDate	SoftwareCost
AC01	32808	09-13-1995	754.95
DB32	32808	12-03-1995	380.00
DB32	37691	06-15-1995	380.00
DB33	57772	05-27-1995	412.77
WP08	32808	01-12-1996	185.00
WP08	37691	06-15-1995	227.50
WP08	57222	05-27-1995	170.24
WP09	59836	10-30-1995	35.00
WP09	77740	15-27-1995	35.00

T2.

PackageID	SoftwarePackage Name
AC01	Warcraft 3
DB32	Starcraft
DB33	Starcraft 2
WP08	Titan Fall
WP09	Tetris

T3.

TagNum	CompID
32808	HP
37691	Sony
57772	Apple
57222	Lenovo
59836	Lenovo
77740	Lenovo

- The primary key for T1 is {PackageID, TagNum}.
The primary key for T2 is PackageID.
The primary key for T3 is TagNum.
- SoftwarePackageName is dependent on PackageID. CompModel is dependent on TagNum.
- The tables are now in 3NF because it is 2NF and all nonprimary fields are dependent on the primary key.
- The Beautiful E/R diagram

