

Part 1:

1. “Mr. Johnson, that’s a nice collection of data you have there. I’ll be able to use it to help streamline your company. Leave it to me!”

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. PackageID + TagNumber is the primary key (as a composite key).

Part 2:

4.

PackageName	PackageID	TagNumber	InstallDate	SoftwareCost USD	ComputerModel
FreddyFish	AC01	32808	09-13-2005	754.95	IBM
PajamaSam	DB32	32808	12-03-2005	380.00	IBM
PajamaSam	DB32	37691	06-15-2005	380.00	Apple
PajamaSam2	DB33	57772	05-27-2005	412.77	Dell
PuttPutt	WP08	32808	01-12-2006	185.00	IBM
PuttPutt	WP08	37691	06-15-2005	227.50	Apple
PuttPutt	WP08	57222	05-27-2005	170.24	Dell
PuttPutt2	WP09	59836	10-30-2005	35.00	Asus
PuttPutt2	WP09	77740	05-27-2005	35.00	Lenovo

5. PackageName → PackageID
 ComputerModel → TagNumber
 PackageID + TagNumber → SoftwareCostUSD, InstallDate

6. Because there are a partial key dependencies (dependencies 1 and 2 in question 5), second normal form is broken. This means we cannot have third normal form.

Part 3:

PackageID	PackageName
AC01	FreddyFish
DB32	PajamaSam
DB33	PajamaSam2
WP08	PuttPutt
WP09	PuttPutt2

TagNumber	ComputerModel
32808	IBM
37691	Apple
57222	Dell
59836	Asus
77740	Lenovo

PackageID	TagNumber	InstallDate	SoftwareCostUSD
WP09	77740	5-27-2005	35.00
WP09	59836	10-30-2005	35.00
WP08	57222	5-27-2005	170.24
WP08	32808	01-12-2006	185.00
WP08	37691	06-15-2005	227.50
DB32	37691	06-15-2005	380.00
DB32	32808	12-03-2005	380.00
DB33	57772	05-27-2005	412.77
AC01	32808	09-13-2005	754.95

7. Primary Keys:

Table 1 - PackageID

Table 2 - TagNumber

Table 3 - PackageID + TagNumber

8. Table 1 PackageID → PackageName
 Table 2 TagNumber → ComputerModel
 Table 3 PackageID + TagNumber → SoftwareCostUSD, InstallDate

9. The new tables are in third normal form because 1. Each column contains atomic data (1NF) 2. There are no partial key dependencies (2NF) and 3. There are no multikey dependencies (3NF).

10. My Beautiful ERD

