

- 1) By the amount data that you have acquired your company shows obviously you show that you want to succeed by your commitment. Although the data is not formatted which is not a problem since that is the next step so it will be modular and more simplistic so that it will be easier to maintain in the future.

- 2) For some reason Google Doc wouldn't let me insert the table so hopefully this photo is good enough.

PART ONE: First Normal Form			
PackageID	TagNumber	InstallDate	SoftwareCostUSD
AC01	32808	9-13-05	754.95
DB32	32808	12-03-05	380
DB32	37691	06-15-05	380
DB33	57772	05-27-05	412.77
WP08	32802	01-12-06	185
WP08	37691	06-15-05	227.5
WP08	57222	05-27-05	170.24
WP09	59836	10-30-05	35
WP09	77740	05-27-05	35

- 3) The Primary Key in this table is a composite key that is created by combining the data values in PackageID and TagNumber.

- 4)

PART TWO: New Table					
PackageID	TagNumber	ComputerModel	PackageName	InstallDate	SoftwareCostUSD
AC01	32808	Alienware	Fallout	9-13-05	754.95
DB32	32808	Alienware	Portal	12-03-05	380
DB32	37691	MSI	Portal	06-15-05	380
DB33	57772	Apple	DayZ	05-27-05	412.77
WP08	32808	Dell	Half Life 3?	01-12-06	185
WP08	37691	MSI	Half Life 3?	06-15-05	227.5
WP08	57222	Lenovo	Half Life 3?	05-27-05	170.24
WP09	59836	IBM	GoldenEye Source	10-30-05	35
WP09	77740	HP	GoldenEye Source	05-27-05	35

- 5) PackageID → PackageName  
TagNumber → ComputerModel

PackageID/TagNumber → InstallDate/SoftwareCostUSD

- 6) Now of course this table isn't in second normal form. Tables are considered third normal form if all the attributes in the table are determined by the candidate key and the table has to be in second normal form as well. This table doesn't meet those conditions as well as the one of the attributes of the second normal form which is, no non-prime attribute is dependant on any proper subset of any candidate key of the table.

- 7) Software Table Primary Key → PackageID  
Installation Table Primary Key → PackageID, TagNumber  
Devices Table Primary Key → TagNumber

8) **Software Table**

Package ID → PackageName

**Devices Table**

TagNumber → Computer Model

**Installation Table**

PackageID, TagNumber → InstallDate, SoftwareCostUSD

- 9) So these tables are finally in the third normal form because it will finally reduce the chance of duplicate data and also helps with referencing between existing tables. The entities such as Software and Devices tables have their own attributes that separate each other from one another because of the candidate keys rather than by non-prime attributes.

10)

