

Tyler Cavera  
Lab 7

1. "It's a good starting point, but improvements can be made."
2. Below is the data in 1NF:

PackID	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	69836	10-30-1995	35.00
WP09	77740	05-27-1995	35.00

3. The primary key is PackID and TagNum
- 

4. Below is the new table:

PackName	PackID	CompModel	TagNum	InstallDate	SoftwareCost
Minecraft	AC01	Lenovo	32808	09-13-1995	754.95
Doom	DB32	Lenovo	32808	12-03-1995	380.00
Doom	DB32	DELL	37691	06-15-1995	380.00
Doom 2	DB33	ASUS	57772	05-27-1995	412.77
Portal	WP08	Lenovo	32808	01-12-1996	185.00
Portal	WP08	DELL	37691	06-15-1995	227.50
Portal	WP08	Apple	57222	05-27-1995	170.24
Portal 2	WP09	Sony	59836	10-30-1995	35.00
Portal 2	WP09	SAMSUNG	77740	05-27-1995	35.00

5. PackName is functionally dependent on PackID. CompModel is functionally dependent on TagNum. InstallDate and SoftwareCost are functionally dependent on PackID and TagNum.

6. This table is not in 3NF because there are partial key dependencies, violating 2NF.
-

7. Below are the 3NF tables:

Hardware

TagNum	CompModel
32808	Lenovo
37691	DELL
57772	ASUS
57222	Apple
59836	Sony
77740	SAMSUNG

Pkey = TagNum

Software

PackID	PackName
AC01	Minecraft
DB32	Doom
DB33	Doom 2
WP08	Portal
WP09	Portal 2

Pkey = PackID

SoftwareInstall

PackID	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	05-27-1995	35.00

Pkey = PackID and TagNum

8. CompModel is functionally dependent on TagNum.

PackName is functionally dependent on PackID.

SoftwareCost and InstallDate are functionally dependent on PackID and TagNum,

9. These new tables are in third normal form because there are no partial dependencies, no multiple dependencies, and nonkey attributes depend on primary keys.

10. Below is my beautiful E/R Diagram:

Software

PackID	PackName
AC01	Minecraft
DB32	Doom
DB33	Doom 2
WP08	Portal
WP09	Portal 2

PackID

PackID	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	05-27-1995	35.00

TagNum

TagNum	CompModel
32808	Lenovo
37691	DELL
57772	ASUS
57222	Apple
59836	Sony
77740	SAMSUNG