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Normalization One

Part One:

1. I took a glance at the database you have created, and this is a great foundation for what you want for this operation. However, there are improvements that can be implemented in order to make the database to run more efficient and smoothly.

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	01-12-2005	185.00
WP08	37691	06-15-2005	227.50
WP08	57222	05-27-2005	170.24
WP09	59536	10-30-2005	35.00
WP09	77740	05-27-2005	35.00

3. The primary keys are PackageID and TagNumber.

Part Two:
4.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	Software_Package_Name	Computer Model
AC01	32808	09-13-2005	754.95	Garage Band	Apple
DB32	32808	12-03-2005	380.00	Microsoft Excel	Apple
DB32	37691	06-15-2005	380.00	Microsoft Excel	Lenovo
DB33	57772	05-27-2005	412.77	Zork	IBM
WP08	32808	01-12-2005	185.00	Destiny II	Alienware
WP08	37691	06-15-2005	227.50	Destiny II	Dell
WP08	57222	05-27-2005	170.24	Destiny II	IBM
WP09	59536	10-30-2005	35.00	Portal	Dell
WP09	77740	05-27-2005	35.00	Portal	Alienware

5. PackageID >Software_Package_Name, SoftwareCostUSD, ComputerModel, InstallDate
TagNumber> Computer Model
PackageID>

6. A table is in third normal form is the table is in second normal form and all attributes of the table are dependent on the primary key. This table is not in third normal form because all attributes are not dependent a single primary key. There are two primary keys creating multiple key dependencies.

Part Three:
7.

Table 1:

TagNumber	Computer Model
32808	Apple
32808	Apple
37691	Lenovo
57772	IBM
32808	Alienware

37691	Dell
57222	IBM
59536	Dell
77740	Alienware

In Table 1 the primary key is TagNumber. ComputerModel is dependent on TagNumber.

Table 2:

Software_Package_Name	PackageID
Garage Band	AC01
Microsoft Excel	DB32
Microsoft Excel	DB32
Zork	DB33
Destiny II	WP08
Destiny II	WP08
Destiny II	WP08
Portal	WP09
Portal	WP09

In Table 2 the primary key is PackageID. Software_Package_Name is dependent on PackageID.

Table 3: The Primary keys are PackageID and TagNumber. InstallDate and SoftwareCostUSD are dependent on PackageId and TagNumber.

PackageID	TagNumber	SoftwareCost USD	InstallDate
AC01	32808	754.95	09-13-2005
DB32	32808	380.00	12-03-2005
DB32	37691	380.00	06-15-2005
DB33	57772	412.77	05-27-2005
WP08	32808	185.00	01-12-2005
WP08	37691	227.50	06-15-2005
WP08	57222	170.24	05-27-2005
WP09	59536	35.00	10-30-2005

WP09	77740	35.00	05-27-2005

9. The new tables are in third normal form because now there are not any partial key dependancies for any of the three tables.

ER Diagram is separate.