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CMPT 308 – Lab 7 Normalization One

PART ONE:

1. I would respond to this by recommending that it would be better to divide the one table into other tables so that the information is more organized and easier to understand. By dividing it into other tables it will make the information very regular which will avoid errors and insert, update, and delete anomalies.

2.

<u>PackageID</u>	<u>TagNumber</u>	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	37961	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. The primary key of this table is (PackageID, TagNumber) which means that the combination of both the PackageID and the TagNumber is what will make the row unique.

PART TWO:

4.

<u>PackageID</u>	<u>TagNumber</u>	InstallDate	SoftwareCostUSD	SftwPckName	CmptMod
AC01	32808	09-13-2005	754.95	Microsoft Off	Dell
DB32	32808	12-03-2005	380.00	Adobe	Dell
DB32	37691	06-15-2005	380.00	Adobe	Apple
DB33	57772	05-27-2005	412.77	Zork	IBM
WP08	32808	01-12-2006	185.00	Steam	Dell
WP08	37691	06-15-2005	227.50	Steam	Apple
WP08	57222	05-27-2005	170.24	Steam	Azus
WP09	59836	10-30-2005	35.00	Portal	Gateway
WP09	77740	05-27-2005	35.00	Portal	Lenovo

5. (PackageID, TagNumber) → InstallDate, SoftwareCostUSD, SftwPckName, CmptMod
6. This table is not in third normal form because there are multiple key dependencies, which means that there are attributes that are dependent on more than one key, and it is not in second normal form.

PART THREE:

Decomposed 1NF Table:

Software		Installation				Computers	
<u>PackageID</u>	SftwPckName	<u>Package ID</u>	<u>TagNumber</u>	InstallDate	SoftwareCostUSD	<u>TagNumber</u>	CmptMod
AC01	Microsoft Off	AC01	32808	9/13/2005	754.95	32808	Dell
DB32	Adobe	DB32	32808	12/3/2005	380.00	37691	Apple
DB33	Zork	DB32	37691	6/15/2005	380.00	57772	IBM
WP08	Steam	DB33	57772	5/27/2005	412.77	57222	Azus
WP09	Portal	WP08	32808	1/12/2006	185.00	59836	Gateway
		WP08	37691	6/15/2005	227.50	77740	Lenovo
		WP08	57222	5/27/2005	170.24		
		WP09	59836	10/30/2005	35.00		
		WP09	77740	5/27/2005	35.00		

- Primary key for Software: PackageID
Primary key for Computers: TagNumber
Primary key for Installation: (PackageID, TagNumber)
- Functional Dependencies:
Installation: (PackageID, TagNumber) → InstallDate, SoftwareCostUSD
Software: PackageID → SftwPckName
Computers: TagNumber → CmptMod
- The tables are in third normal form because it follows second normal form and there are no multiple key dependencies
- Beautiful E/R Diagram:

