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CMPT_308L_200_16S

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Lab 7

1.

a. I reviewed your data and this a great start, but there are improvements you can implement to make better use of your data. I would start by slightly altering your data to fit the second normal form and therefore making it more usable.

b.

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	59536	10-30-2005	35.00
WP09	77740	05-27-2005	35.00

c. The primary keys are PackageID and TagNumber.

2.

a.

CompModel	SoftwareName	PackageID	TagNumber	InstallDate	SoftwareCostUSD
IBM	Excel	AC01	32808	09-13-2005	754.95
IBM	Powerpoint	DB32	32808	12-03-2005	380.00
Apple	Powerpoint	DB32	37691	06-15-2005	380.00
ASUS	Word	DB33	57772	05-27-2005	412.77
IBM	Portal	WP08	32808	01-12-2006	185.00
Dell	Portal	WP08	37691	06-15-2005	227.50
Asus	Portal	WP08	57222	05-27-2005	170.24
Apple	Zork	WP09	59536	10-30-2005	35.00
Dell	Zork	WP09	77740	05-27-2005	35.00

b. PackageID, TagNumber → CompModel, SoftwareName, InstallDate, SoftwareCostUSD.

PackageID → SoftwareName

TagNumber → CompModel

c. The new table is not in third normal form because it does not adhere to second normal form. There are two primary keys in the functional dependency and that creates a multiple key dependency.

3.

Table 1

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	59536	10-30-2005	35.00
WP09	77740	05-27-2005	35.00

Table 2

CompModel	TagNumber
IBM	32808
IBM	32808
Apple	37691
ASUS	57772
IBM	32808
Dell	37691
Asus	57222
Apple	59536
Dell	77740

Table 3

SoftwareName	PackageID
Excel	AC01
Powerpoint	DB32
Powerpoint	DB32
Word	DB33
Portal	WP08
Portal	WP08
Portal	WP08
Zork	WP09
Zork	WP09

- a. In Table 1, the primary keys are PackageID and TagNumber. In Table 2, the primary key is TagNumber. In Table 3, the primary key is PackageID.
- b. In Table 1, InstallDate and SoftwareCostUSD are functionally dependent on PackageID and TagNumber. In Table 2, CompModel is dependent on TagNumber. In Table 3, SoftwareName is dependent on PackageID.
- c. The new tables are in third normal form because now the data is atomic, it does not have partial key dependencies, and it does not have multiple key dependencies.
- d. E/R Diagram

