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Lab 7

1) As a consultant, I would tell my employer that it is unconventional and frowned upon to have more than one value at each intersection of the column. It makes the data much more confusing to read, and makes it seem cluttered.

2) Table in First Normal Form

	packageid text	tagnumber integer	installdate text	softwarecostusd money
1	AC01	32808	09-13-2005	$754.95
2	DB32	32808	12-03-2005	$380.00
3	DB32	37691	06-15-2005	$380.00
4	DB33	57772	05-27-2005	$412.77
5	WP08	32808	01-12-2006	$185.00
6	WP08	37691	06-15-2005	$227.50
7	WP08	57222	05-27-2005	$170.24
8	WP09	59836	10-30-2005	$35.00
9	WP09	77740	05-27-2005	$35.00

3) The primary key is a composite of packageid and tagnumber.
4) Table with the two additional columns

	packageid text	tagnumber integer	installdate text	softwarecostusd money	softwarepackagename text	computermodel text
1	AC01	32808	09-13-2005	$754.95	Star Wars: the Old Repul	Lenovo
2	DB32	32808	12-03-2005	$380.00	Star Wars: Empire at Wa:	Lenovo
3	DB32	37691	06-15-2005	$380.00	Star Wars: Empire at Wa:	IBM
4	DB33	57772	05-27-2005	$412.77	Star Wars: Republic Com	Apple
5	WP08	32808	01-12-2006	$185.00	Star Wars: Battlefront	Lenovo
6	WP08	37691	06-15-2005	$227.50	Star Wars: Battlefront	IBM
7	WP08	57222	05-27-2005	$170.24	Star Wars: Battlefront	Toshiba
8	WP09	59836	10-30-2005	$35.00	Star Wars: Battlefront2	Acer
9	WP09	77740	05-27-2005	$35.00	Star Wars: Battlefront2	Sony

5) The functional dependencies are the tagnumber to the computermodel, and the packageid to the softwarepackagename.
6) The new table is not in third normal form because it is the same table as our first one, which was in first normal form, just with two added columns. It remains in first normal form because the primary key is still composite, when, in order to be in third normal form, it shouldn't be.

7)

	packageid text	softwarepackagename text
1	AC01	Star Wars: the Old Republic
2	DB32	Star Wars: Empire at War
3	DB33	Star Wars: Republic Commando
4	WP08	Star Wars: Battlefront
5	WP09	Star Wars: Battlefront2

	tagnumber integer	computermodel text
1	32808	Lenovo
2	37691	IBM
3	57772	Apple
4	57222	Toshiba
5	59836	Acer
6	77740	Sony

	packageid text	tagnumber integer	installdate text	softwarecostusd money
1	AC01	32808	09-13-2005	$754.95
2	DB32	32808	12-03-2005	$380.00
3	DB32	37691	06-15-2005	$380.00
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5	WP08	32808	01-12-2006	$185.00
6	WP08	37691	06-15-2005	$227.50
7	WP08	57222	05-27-2005	$170.24
8	WP09	59836	10-30-2005	$35.00
9	WP09	77740	05-27-2005	$35.00

Table 1: the primary key is packageid

Table 2: the primary key is tagnumber

Table 3: the primary key is a composite of the packageid and the tagnumber.

8) Functional dependencies include the packageid to the software packagename, and the tagnumber to the computermodel.
9) The new tables are in third normal form because there is no transitive functional dependency.
10)

ER diagram (please ignore the tiny "text" at the top left… I must have clicked "text box" accidentally and put it there.

Text

COMPUTERS

	tagnumber integer	computermodel text
1	32808	Lenovo
2	37691	IBM
3	57772	Apple
4	57222	Toshiba
5	59836	Acer
6	77740	Sony

SOFTWARE

	packageid text	softwarepackagename text
1	AC01	Star Wars: the Old Republic
2	DB32	Star Wars: Empire at War
3	DB33	Star Wars: Republic Commando
4	WP08	Star Wars: Battlefront
5	WP09	Star Wars: Battlefront2

COST PER COMPUTER AT INSTALL TIME

	packageid text	tagnumber integer	installdate text	softwarecostusd money
1	AC01	32808	09-13-2005	$754.95
2	DB32	32808	12-03-2005	$380.00
3	DB32	37691	06-15-2005	$380.00
4	DB33	57772	05-27-2005	$412.77
5	WP08	32808	01-12-2006	$185.00
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