John Paul Welsh

Lab 7

Question 1

Upon seeing the single spreadsheet, I would say that I could devise for him a better system that would make it easier and safer for him to maintain this information. I would strongly encourage that he adopt my way of doing things, but he does have the last say so I would not be pushy.

Question 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	01-12-2006	185.00
WP08	37691	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

Question 3

The primary key is PackageID and TagNumber, together.

Question 4

PackageID	TagNumber	PackageName	InstallDate	SoftwareCostUSD	ComputerModel
AC01	32808	Lotus Notes	09-13-2005	754.95	Apple
DB32	32808	Microsoft Access	12-03-2005	380.00	Windows
DB32	37691	Microsoft Access	06-15-2005	380.00	IBM
DB33	57772	Microsoft Outlook	05-27-2005	412.77	Windows
WP08	32808	RealPlayer	01-12-2006	185.00	IBM
WP08	37691	RealPlayer	06-15-2005	227.50	Apple
WP08	57222	RealPlayer	05-27-2005	170.24	Windows
WP09	59836	Ask Toolbar	10-30-2005	35.00	IBM
WP09	77740	Ask Toolbar	05-27-2005	35.00	IBM

Question 5

(PackageID, TagNumber) ==> PackageName, InstallDate, SoftwareCostUSD, ComputerModel

PackageID ==> PackageName

Question 6

This table is *not* in 3NF because the second dependency above is a partial dependency, which violates 2NF (and therefore, 3NF).

New Tables

Packages	PackageID	PackageName
-	AC01	Lotus Notes
-	DB32	Microsoft Access
-	DB33	Microsoft Outlook
-	WP08	RealPlayer
-	WP09	Ask Toolbar

Orders	PackageID	TagNumber
-	AC01	32808
-	DB32	32808
-	DB32	37691
-	DB33	57772
-	WP08	32808
-	WP08	37691
-	WP08	57222
-	WP09	59836
-	WP09	77740

Installations	TagNumber	InstallDate	SoftwareCostUSD	ComputerModel
-	32808	09-13-2005	754.95	Apple
-	32808	12-03-2005	380.00	Windows
-	37691	06-15-2005	380.00	IBM
-	57772	05-27-2005	412.77	Windows
-	32808	01-12-2006	185.00	IBM
-	37691	06-15-2005	227.50	Apple
-	57222	05-27-2005	170.24	Windows
-	59836	10-30-2005	35.00	IBM
-	77740	05-27-2005	35.00	IBM

Question 7

Primary key for Package table = PackageID

Primary key for Installations table = (TagNumber, PackageID)

Question 8

PackageID ==> PackageName

(TagNumber, PackageID) ==> InstallDate, SoftwareCostUSD, ComputerModel

Question 9

The new tables are in 3NF because each row-column cell has one value only (1NF), and all dependencies are exhaustive for each respective table, with no partial (2NF) or transitive (3NF) dependencies.