

Robert Coords

Database Management

Professor Labouseur

Lab 7

Part One:

1. I would tell Miles Meservy that an excel spreadsheet is a great first step for managing the data generated by KramERICA Enterprises. However, I would recommend that he invest in storing that data on a database instead, as that would make retrieving the data, adding new software package installations, and removing software package installations easier and faster.
2. Below is the table in First Normal Form:

PackageID	TagNumber	InstallDate	SoftwareCostUSD
AC01	32808	9/13/2005	754.95
DB32	32808	12/3/2005	380.00
DB32	37691	6/15/2005	380.00
DB33	57772	5/27/2005	412.77
WP08	32808	1/12/2006	185.00
WP08	37691	6/15/2005	227.50
WP08	57222	5/27/2005	170.24
WP09	59836	10/30/2005	35.00
WP09	77740	5/27/2005	35.00

3. The primary key for the table is the PackageID and the TagNumber fields. When combined, they can uniquely identify each row.

Part Two:

4. The new table is shown below:

PackageID	TagNumber	InstallDate	SoftwareCostUSD	SoftwarePackageName	ComputerModel
AC01	32808	9/13/2005	754.95	Assassin's Creed	IBM
DB32	32808	12/3/2005	380.00	Dota 2	IBM
DB32	37691	6/15/2005	380.00	Dota 2	Intel
DB33	57772	5/27/2005	412.77	Half Life 3	Lenovo
WP08	32808	1/12/2006	185.00	BioShock Infinite	IBM
WP08	37691	6/15/2005	227.50	BioShock Infinite	Intel
WP08	57222	5/27/2005	170.24	Bioshock Infinite	Lenovo
WP09	59836	10/30/2005	35.00	Portal	Commodore
WP09	77740	5/27/2005	35.00	Portal	Apple

5. PackageID, TagNumber → InstallDate, SoftwareCostUSD, SoftwarePackageName, ComputerModel

PackageID → SoftwarePackageName

TagNumber → ComputerModel

6. The table is not in third normal form because it has multiple dependencies.

Part Three:

SoftwarePackageInstallationInformation			
PackageID	TagNumber	InstallDate	SoftwareCostUSD
AC01	32808	9/13/2005	754.95
DB32	32808	12/3/2005	380.00
DB32	37691	6/15/2005	380.00
DB33	57772	5/27/2005	412.77
WP08	32808	1/12/2006	185.00
WP08	37691	6/15/2005	227.50
WP08	57222	5/27/2005	170.24
WP09	59836	10/30/2005	35.00
WP09	77740	5/27/2005	35.00

SoftwarePackages	
PackageID	SoftwarePackageName
AC01	Assassin's Creed
DB32	Dota 2
DB33	Half Life 3
WP08	Bioshock Infinite
WP09	Portal

ComputerModels	
TagNumber	ComputerModel
32808	IBM
37691	Intel
57772	Lenovo
59836	Commodore
77740	Apple

7. The primary key for the first table is PackageID and TagNumber. The primary key for the second table is PackageID. The primary key for the third table is TagNumber.
8.
 - a. Table One:
PackageID, TagNumber → InstallDate, SoftwareCostUSD
 - b. Table Two:
PackageID → SoftwarePackageName
 - c. Table Three:
TagNumber → ComputerModel
9. These tables are in third normal form because their non-key attributes are dependent on only the keys. The tables do not have multiple dependencies or partial dependencies. Also, every field is an atomic value.
- 10.

