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Assigned on 10/19/2016

Due on 11/3/2016

Lab 7 – Normalization One

PART ONE:

1. I would reply by telling him that given enough time and money I can make this in any form he wants. Also, the fact that he has his data in a spreadsheet is both garish and unsafe. On top of all that, the data is not in 1NF and therefore lacks atomic data.
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

3. In this case, I would make the primary key a composite key made up of PackageID and TagNumber.

PART TWO:

4.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	SoftwareName	ComputerModel
AC01	32808	09-13-2005	754.95	Zork	IBM
DB32	32808	12-03-2005	380.00	Portal	IBM
DB32	37691	06-15-2005	380.00	Portal	HP
DB33	57772	05-27-2005	412.77	Portal 2	Apple
WP08	32808	01-12-2006	185.00	Oblivion	IBM
WP08	37691	06-15-2005	227.50	Oblivion	HP
WP08	57222	05-27-2005	170.24	Oblivion	Asus
WP09	59836	10-30-2005	35.00	Skyrim	Razer
WP09	77740	05-27-2005	35.00	Skyrim	Dell

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

6. Because ComputerModel depends on TagNumber alone and not the composite key made up of TagNumber and PackageID. Also, the same thing applies for SoftwareName. Therefore, this table is not in 2NF, which also make it impossible to reach 3NF.

PART THREE:

7. PackageID is the primary key for the Softwares table. TagNumber is the Primary key for the Computers table. And PackageID and TagNumber form a composite Primary Key together.
8. In the Softwares table, SoftwareName has a functional dependency on PackageID. In the Computers table, ComputerModel has a functional dependency on TagNumber. In Orders, InstallDate and SoftwareCostUSD are functional dependencies that rely on both PackageID and TagNumber.
9. The new tables are in 1NF because all intersections of rows and columns are atomic. The tables are in 2NF because they are in 1NF and there are no partial dependencies. The tables are in 3NF because they are in 2NF and there are no transitive dependencies.
10.