

Jonathan Pistilli
Normalization Homework #1

Part One

1. You let him know that you think the spreadsheet looks really well put together, however, you can make accessing, collecting, and creating data and information much easier and more efficient through a database system.

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. The primary key is a composite key of PackageID, TagNumber, and InstallDate

Part Two

1.

SoftwarePackage Name	CompModel	PackageID	TagNumber	InstallDate	SoftwareCost- USD
Rush	Apple	AC01	32808	09-13-2005	754.95
Origins	Apple	DB32	32808	12-03-2005	380.00
Origins	Dell	DB32	37691	06-15-2005	380.00
Westeros	Lenovo	DB33	57772	05-27-2005	412.77
Agartha	HP	WP08	32808	01-12-2006	185.00
Agartha	Dell	WP08	37691	06-15-2005	227.50
Agartha	Lenovo	WP08	57222	05-27-2005	170.24
Maxis	Asus	WP09	59836	10-30-2005	35.00
Maxis	Acer	WP09	77740	05-27-2005	35.00

2. Functional Dependencies

TagNumber → CompModel

PackageID → SoftwarePackageName

SoftwarePackageName, CompModel, InstallDate → SoftwareCostUSD

3. This table is not in third normal form because not all column values are dependent upon the primary key. Also, the primary key is a composite key.

Part Three

1.

software_products

PackageID	SoftwarePackage- eName
AC01	Rush
DB32	Origins
DB33	Westeros
WP08	Agartha
WP09	Maxis

computers

TagNumber	CompModel
32808	Apple
37691	Dell
57772	Lenovo
32808	HP
59836	Asus
77740	Acer

orders

PackageID	TagNumber	InstallDate	SoftwareCost-USD
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

1. Primary Keys

PackageID is the primary key for *software_products*.

TagNumber is the primary key for *computers*.

The primary key for *orders* is a composite key consisting of PackageID, TagNumber, and InstallDate

2. Functional Dependencies

- *software_products*

PackageID → SoftwarePackageName

- *computers*

TagNumber → CompModel

- *orders*

PackageID, TagNumber, InstallDate → SoftwareCostUSD

3. These tables are in third normal form because everything in each table is fully dependent upon the primary key. Also, from the requirements of second normal form, the tables make use of foreign keys to show relationships between tables. From the requirements for first normal form, each table has a primary key and no duplicative columns.

4. ER Diagram

