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Database Management

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Lab 7: Normalization One

Part One

1. The table does not abide by 1NF. There are blank spaces in the table. No primary key is specified. It cannot be any single ID because there are multiple of the same instance in every column. There would have to be a composite key of both PackageID and TagNumber.
2. Table

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. Composite Key between PackageID and TagNumber

Part Two

4. Table

PackageID	PackageName	TagNumber	ComputerModel	InstallDate	SoftwareCostUSD
AC01	Lotus Notes	32808	Dell	09-13-2005	754.95
DB32	Steam	32808	Dell	12-03-2005	380.00
DB32	Steam	37691	Apple	06-15-2005	380.00
DB33	Origin	57772	Apple	05-27-2005	412.77
WP08	Xcode	32808	Dell	01-12-2006	185.00
WP08	Xcode	37691	Apple	06-15-2005	227.50
WP08	Xcode	57222	Apple	05-27-2005	170.24
WP09	IntelliJ	59836	Lenovo	10-30-2005	35.00
WP09	IntelliJ	77740	Lenovo	05-27-2005	35.00

5. Functional Dependencies

PackageID → Package Name

PackageID and TagNumber → InstallDate and SoftwareCostUSD

TagNumber → Computer Model

6. This table is not in third normal form because there are multiple functional dependencies in one table.

Part Three:

7. The primary key for the first table is TagNumber , the primary key in the second table is a composite key of PackageID and TagNumber, and the primary key of the third table is PackageID.
8. The functional dependency of the first table is TagNumber → Computer Model, the functional dependency of the second table is PackageID and TagNumber → InstallDate and SoftwareCostUSD and the functional dependency of the third table is PackageID → PackageName.
9. The new tables are in third normal form because they all only have one functional dependency.
10. E/R Diagram:

