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Database Management

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Part One

1. This is a great start to achieving a neat and effective database that will make retrieving data less tedious. Next I will need format this data so it's easier to move around and pair with other 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	32909	01-12-2006	185.00
WP08	37691	06-15-2005	227.50
WO08	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 that is PackageID and TagNumber

Part Two

4.

PackageID	TagNumber	InstallDate	SoftwareCostUSD	SwPackageName	CompModel
AC01	32808	09-13-2005	754.95	DARK SOULS	IBM
DB32	32808	12.03.2005	380.00	PORTAL	IBM
DB32	37691	06-15-2005	380.00	PORTAL	ASUS
DB33	57772	05-27-2005	412.77	BATTLEFIELD	HP
WP08	32909	01-12-2006	185.00	GTA V	MSI
WP08	37691	06-15-2005	227.50	GTA V	ASUS
WP08	57222	05-27-2005	170.24	GTA V	APPLE
WP09	59836	10-30-2005	35.00	DESTINY	LENOVO
WP09	77740	05-27-2005	35.00	DESTINY	DELL

5. The functional dependencies are

- PackageID \rightarrow SwPackageName
- TagNumber \rightarrow CompMogel
- PackageID and TagNumber \rightarrow InstallDate, SoftwareCostUSD

6. The table is not in 3NF because it is not in second normal form and all attributes must be determined by the candidate key. The reason this doesn't work is because not everything can be determined by at least 1 candidate key.

Part 3

7. Primary keys

- a. Software table → PackageID
- b. Computers table → TagNumber
- c. Install table → PackageID and TagNumber

8. Functional dependencies

- a. Software table – PackageID → PackageName
- b. Computer table – TagNumber → CompModel
- c. Install table – PackageID and TagNumber → InstallDate, SoftwareCostUSD

9. These new tables are in 3NF because it has referential integrity between all of the tables. All of the strong entities are also only determined by a candidate key. As for the Weak entities it has composite keys that refer to another primary key.

10.

