

Lab7-normalization1

1. This is awful. Your database should not be a spreadsheet for so many reasons. It should be broken down into various tables in a database management system such as PostgreSQL which is better equipped to handle data. Your approach is more likely to have issues such as data redundancy, update anomalies, and issues with both data security and integrity.

	PackageID character varying (50) 🔒	TagNumber character varying (50) 🔒	InstallDate date 🔒	SoftwareCostUSD numeric (6,2) 🔒
1	AC01	32808	2005-09-13	754.95
2	DB32	32808	2005-12-03	380.00
3	DB32	37691	2005-06-15	380.00
4	DB33	57772	2005-05-27	412.77
5	WP08	32808	2006-01-12	185.00
6	WP08	37691	2005-06-15	227.50
7	WP08	57222	2005-05-27	170.24
8	WP09	59836	2005-10-30	35.00
9	WP09	77740	2005-05-27	35.00

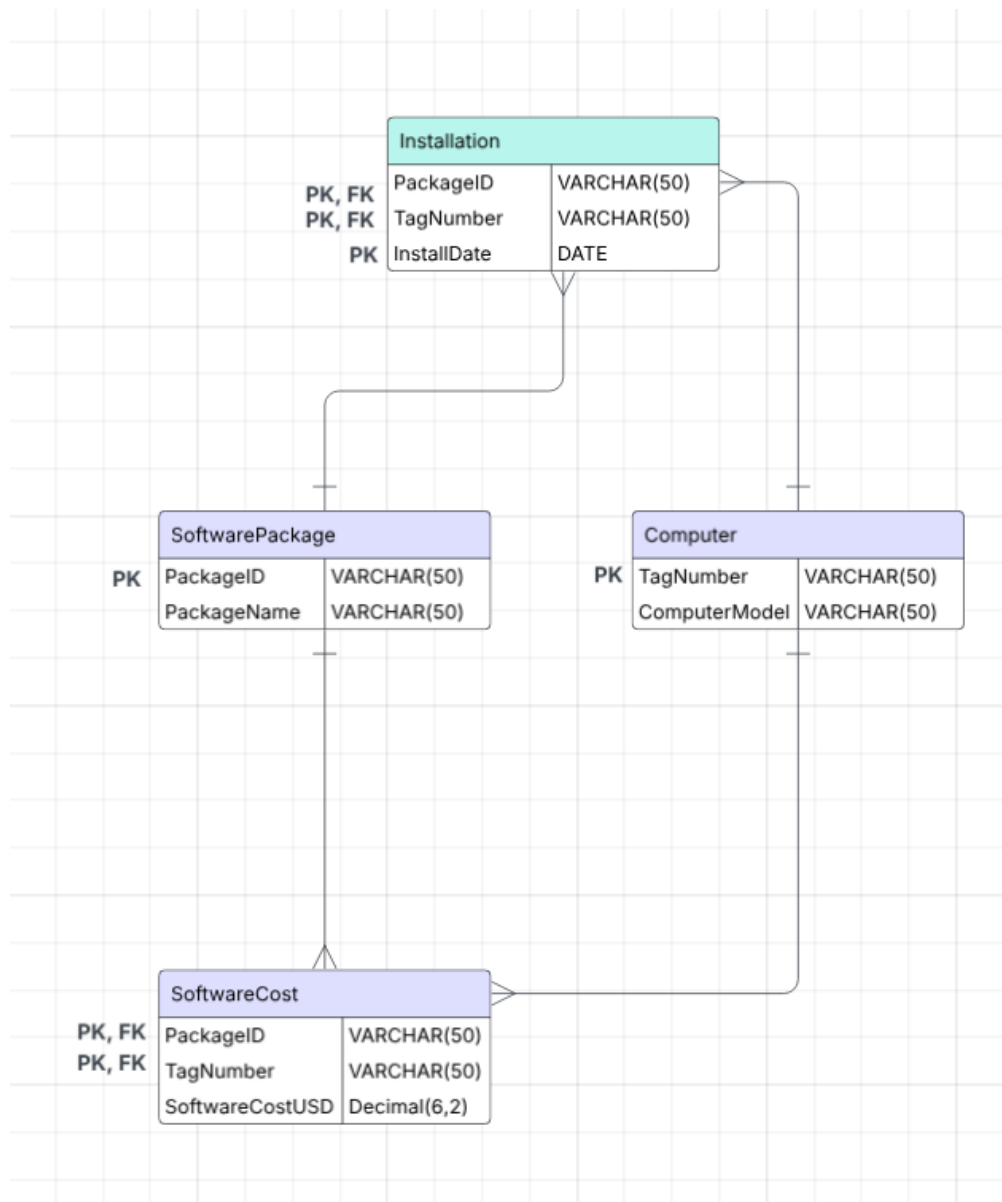
- 2.
3. The primary key is PackageID , TagNumber, and InstallDate.

	PackageID character varying (50) 🔒	TagNumber character varying (50) 🔒	InstallDate date 🔒	SoftwareCostUSD numeric (6,2) 🔒	PackageName character varying (50) 🔒	ComputerModel character varying (50) 🔒
1	AC01	32808	2005-09-13	754.95	Zork	IBM
2	DB32	32808	2005-12-03	380.00	Portal	IBM
3	DB32	37691	2005-06-15	380.00	Portal	Apple
4	DB33	57772	2005-05-27	412.77	Minecraft	Dell
5	WP08	32808	2006-01-12	185.00	Fortnite	IBM
6	WP08	37691	2005-06-15	227.50	Fortnite	Apple
7	WP08	57222	2005-05-27	170.24	Fortnite	HP
8	WP09	59836	2005-10-30	35.00	GTA4	Lenovo
9	WP09	77740	2005-05-27	35.00	GTA4	Razer

- 4.
5. PackageID --> PackageName
TagNumber --> ComputerModel
PackageID, TagNumber --> SoftwareCostUSD

6. This new table is not in third normal form because some non-key attributes depend on only part of the candidate key instead of the entire candidate key. For example, PackageName depends only on PackageID and ComputerModel depends only on TagNumber.

7. Primary key for SoftwarePackage is PackageID.
Primary key for Computer is TagNumber.
Primary key for SoftwareCost is PackageID and TagNumber.
Primary key for Installation is PackageID, TagNumber and InstallDate.
8. SoftwarePackage: PackageID --> PackageName
Computer: TagNumber --> ComputerModel
SoftwareCost: PackageID, TagNumber --> SoftwareCostUSD
Installation: PackageID, TagNumber, InstallDate --> PackageID, TagNumber, InstallDate
9. The new tables are in third normal form because every non-key attribute for each table is now fully dependent on the entire candidate key.



10.