

PART ONE

1. I would politely inform the CEO that his table is an okay start, but as more data is collected the table will become unreadable, contain multiple duplicates and then be completely useless.

2. 1NF

PackID (PK)	TagNum	InstallDate (PK)	SoftwareCostUSD
AC01	32808	9/13/1995	\$745.95
DB32	32808	12/3/1995	\$380.00
DB32	37691	6/15/1995	\$380.00
DB33	57772	5/27/1995	\$412.77
WP08	32808	1/12/1996	\$185.00
WP08	37691	6/15/1995	\$227.50
WP08	57222	5/27/1995	\$170.24
WP09	59836	10/30/1995	\$35.00
WP09	77740	5/27/1995	\$35.00

3. Primary Key: (PackID, TagNum)

PART 2

1.

PackID	TagNum	InstallDate	SoftwareCostUSD	SoftPakName	CompModel
AC01	32808	9/13/1995	\$745.95	Zork	HP
DB32	32808	12/3/1995	\$380.00	Portal	HP
DB32	37691	6/15/1995	\$380.00	Portal	Apple
DB33	57772	5/27/1995	\$412.77	Grim	Toshiba
WP08	32808	1/12/1996	\$185.00	Rogue	HP
WP08	37691	6/15/1995	\$227.50	Rogue	Apple
WP08	57222	5/27/1995	\$170.24	Rogue	Dell
WP09	59836	10/30/1995	\$35.00	Myst	Lenovo
WP09	77740	5/27/1995	\$35.00	Myst	Acer

2. Functional Dependencies:

- a. TagNum → CompModel
- b. PackID → SoftPakName

3. This table is not in third normal form because there are partial dependencies of columns on primary key and not on the whole thing. For example softwarePakName is reliant on PackID, not TagNum. Also CompModel is dependent on the partial key TagNum. No link between CompModel and PackID.

PART 3

1. Primary KEYS:
 - a. Packages: PackID
 - b. Computers: TagNum
2. Functional Dependencies
 - a. $\text{PackID} \rightarrow \text{SoftPakName}$
 - b. $\text{TagNum} \rightarrow \text{CompModel}$
 - c. $\{\text{PackID}, \text{TagNum}\} \rightarrow \text{SoftwareCostUSD}$
3. These tables are now in third normal form because everything in the table is directly dependent on a separate primary key in another table, or is independent and can be used as its own candidate key.

4.

