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Assignment 3 Solutions

①

A	B	C	D	E
1	3	1	3	5
1	2	2	4	2
2	1	2	3	8
1	3	1	4	5

dependency	Can hold ?
A → C	(No) Cannot hold, because some A value [1] is associated with two different C values (1 and 2).
A,B → C,D	(No) Cannot hold, because A,B values (1,3) is associated with two different C,D values (1,3 & 1,4)
C,D → E	(Yes) Can hold, because C, D values are associated with unique values of E

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②

Product Id	ProductName	CatId	CatName	Price

$$CatId \longrightarrow CatName$$

Solution:

(a) Since given Schema doesn't have any partial dependency it is in 2NF.

(b) $CatId \rightarrow CatName$
(transitive dependency)

3NF ⟹

ProductId	ProductName	CatId	Price

CatId	CatName

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③

Q:-

InmateNo	Name	CrimeCode	Description	ArrestDate	Disposition	Courts

InmateNo → Name

CrimeCode → Description

<u>Solution</u> (a) The Schema has partial functional dependency

Schema is in 1NF

(b) InmateNo → Name

       Name doesnot depend on CrimeCode & arrest date (Partial FD)

CrimeCode → description

3NF

Inmate No	Name

InmateNo	Crime Code	Arrest Date	Disposition	Courts

Crimecode	Description