Assignment 3: Normalization

1.For the following relation, say whether the following functional dependencies could hold for the sample data.

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

Dependency	Can Hold ?
A → C	**No because (A1C1 && A1C2) are not unique**
A,B → C,D	**No because (A1B3C1D3 && A1B3C1D4) are nbot unique**
C, D → E	**Maybe**

2. For the following relational schema:

InmateNo	Name	CrimeCode	Description	ArrestDate	Disposition	Counts

And the following functional dependencies (besides the one implied by the Primary Key, for which fields are underlined):
- InmateNo → Name
- CrimeCode → Description

(a) Specify which normal form this schema is in   **1NF**

(b) If the schema is not in 3NF convert it to 3NF

Inmate

number	name

Crime

code	description	inmate

Arrest

date	disposition	counts	inmate
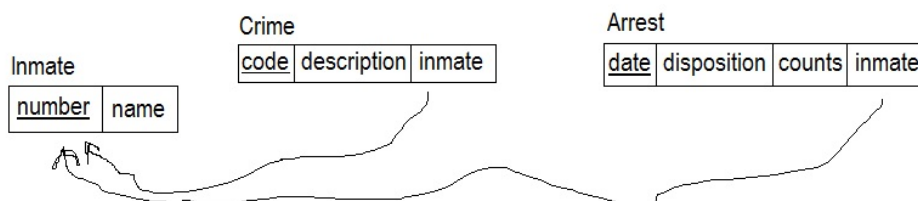
3. For the following relational schema:

ProductId	ProductName	CatId	CatName	Price

And the following functional dependencies(besides the one implied by the Primary Key, for which fields are underlined):
- CatId → CatName

(a) Specify which normal form this schema is in   **1NF**

(b) If the schema is not in 3NF convert it to 3NF

Product

ID	name	price	category

Category

ID	name