정규화 되지 않은 날것의 데이터

title	type	description	created	author_id	author_name	job	price	tag
MYSQL	paper	MYSQL is	2023	1	kim	DBA	10000	rdb, free
MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000	rdb, free
Oracle	paper	Oracle is	2022	2	park	Developer	15000	rdb, commercial
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000	rdb, free

제 1 정규화(1NF) -> 데이터를 원자값으로!

원자값: 더 이상 쪼갤 수 없는 하나의 값.
반복 그룹이 생기는 것을 막자!

title	type	description	created	author_id	author_name	job	price	tag
MYSQL	paper	MYSQL is	2023	1	kim	DBA	10000	rdb
MYSQL	paper	MYSQL is	2023	1	kim	DBA	10000	free
MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000	rdb
MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000	free
Oracle	paper	Oracle is	2022	2	park	Developer	15000	rdb
Oracle	paper	Oracle is	2022	2	park	Developer	15000	commercial
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000	rdb
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000	free

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MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000	rdb
MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000	free
Oracle	paper	Oracle is	2022	2	park	Developer	15000	rdb
Oracle	paper	Oracle is	2022	2	park	Developer	15000	commercial
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000	rdb
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000	free

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MYSQL	paper	MYSQL is	2023	1	kim	DBA	10000
MYSQL	ebook	MYSQL is	2023	1	kim	DBA	8000
Oracle	paper	Oracle is	2022	2	park	Developer	15000
MariaDB	e-book	MariaDB is	2022	3	hong	teacher	12000

title_tag_relation

title	tag_id
MYSQL	1
MYSQL	2
Oracle	1
Oracle	3
MariaDB	1
MariaDB	2

tag

id	name
1	rdb
2	free
3	commercial
4	NoSQL
5	semi-free

제 2 정규화(2NF) -> 부분 함수 종속성 제거	제 1 정규화를 완료한 후에 기본키가 아닌 모든 속성이 기본키에 완전 함수 종속되면 제 2정규화가 만족됩니다.

title	description	created	author_id	author_name	job
MYSQL	MYSQL is	2023	1	kim	DBA
Oracle	Oracle is	2022	2	park	Developer
MariaDB	MariaDB is	2022	3	hong	teacher
MYSQL	MYSQL is	2023	4	lee	writer
Oracle	Oracle is	2015	5	choi	prof

title_type_price

title	type	price
MySQL	paper	10000
MySQL	e-book	8000
Oracle	paper	15000
MariaDB	e-book	12000
MongoDB	e-book	11000

title_tag_relation

title	tag_id
MYSQL	1
MYSQL	2
Oracle	1
Oracle	3
MariaDB	1
MariaDB	2

tag

id	name
1	rdb
2	free
3	commercial
4	NoSQL
5	semi-free

제 3 정규화(3NF) -> 이행적 함수 종속 제거				제 2 정규화가 만족된 상태에서 기본키가 아닌 속성은 기본 키에만 의존하게 해야 합니다.			

A,B,C	A -> B	B -> C	A -> C

title_type_price

title	description	created		title	type	price
MYSQL	MYSQL is	2023		MySQL	paper	10000
Oracle	Oracle is	2022		MySQL	e-book	8000
MariaDB	MariaDB is	2022		Oracle	paper	15000
MYSQL	MYSQL is	2023		MariaDB	e-book	12000
Oracle	Oracle is	2015		MongoDB	e-book	11000

author / **title_tag_relation** / **tag**

author_id	author_name	job		title	tag_id		id	name
1	kim	DBA		MYSQL	1		1	rdb
2	park	Developer		MYSQL	2		2	free
3	hong	teacher		Oracle	1		3	commercial
4	lee	writer		Oracle	3		4	NoSQL
5	choi	prof		MariaDB	1		5	semi-free
6	jung	mujik		MariaDB	2			