Examples: State FD and Keys

http://jcsites.juniata.edu/faculty/rhodes/dbms/funcdep.htm

Ex. All addresses in the same town have the same zip code

SSN	Name	Town	Zip
1234	Joe	Huntingdon	16652
2345	Mary	Huntingdon	16652
3456	Tom	Huntingdon	16652
5948	Harry	Alexandria	16603

SSN	Name	Address	Hobbies
1111	Joe	123 Main	hiking
1111	Joe	123 Main	biking
2222	Mary	321 Elm	lacross

- ***{stuId}→{lastName}***, but not the reverse
- ***{stuId} →{lastName, major, credits, status, socSecNo, stuId}***
- ***{socSecNo} →{stuId, lastName, major, credits, status, socSecNo}***

- ***{credits}→{status},*** but not ***{status}→{credits}***

Trivial Functional Dependency

The FD X→Y is ***trivial*** if set {Y} is a subset of set {X}

Examples: If A and B are attributes of R,

- {A}→{A}
- {A,B} →{A}
- {A,B} →{B}
- {A,B} →{A,B}

are all trivial FDs and will not contribute to the evaluation of normalization.

http://www.rlvision.com/blog/method-for-determining-candidate-keys-and-highest-normal-form-of-a-relation-based-on-functional-dependencies/

```
R(A,B,C)
A → B
B → {A,C}
```

```
R(A,B,C,D,E,F)
A → B
B → A
{B,C} → D
C → E
```

```
R(A,B,C,D,E)
A → {B,C}
{B,C} → A,D
D → E
```