

Multivalued Dependencies and 4th NF

CIS 4301

Lecture Notes

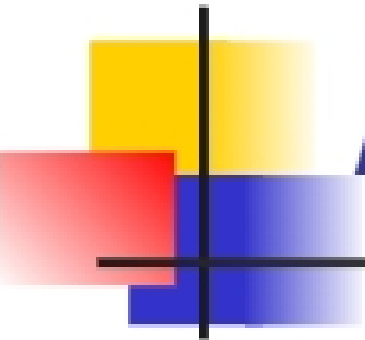
Lecture 12 - 2/21/2006

Multivalued Dependencies

- There are schemas that are in BCNF that do not seem to be sufficiently normalized

Stars

<i>name</i>	<i>street</i>	<i>city</i>	<i>title</i>	<i>year</i>
C. Fisher	123 Maple Str.	Hollywood	Star Wars	1977
C. Fisher	5 Locust Ln.	Malibu	Star Wars	1977
C. Fisher	123 Maple Str.	Hollywood	Empire Strikes Back	1980
C. Fisher	5 Locust Ln.	Malibu	Empire Strikes Back	1980
C. Fisher	123 Maple Str.	Hollywood	Return of the Jedi	1983
C. Fisher	5 Locust Ln.	Malibu	Return of the Jedi	1983



Attribute Independence

- No reason to associate address with one movie and not another
- When we repeat address and movie facts in all combinations, there is obvious redundancy
- However, NO BCNF violation in Stars relation
 - There are no non-trivial FD's at all, all five attributes form the only superkey
 - Why?