

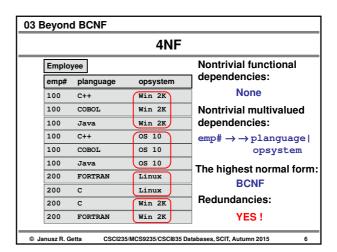

```
4NF

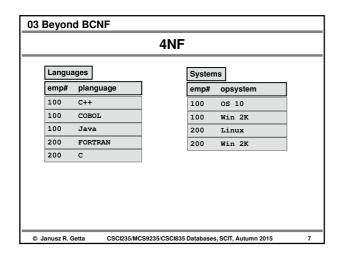
A relational schema R is in 4NF if for every nontrivial multivalued dependency

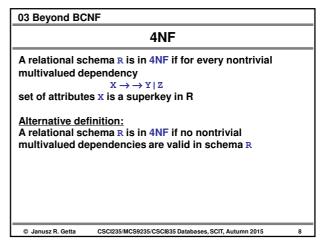
X→→Y|Z

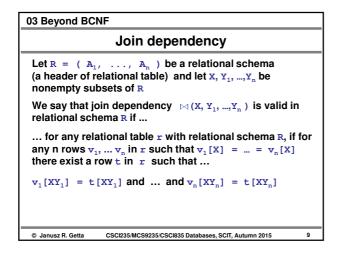
set of attributes X is a superkey in R

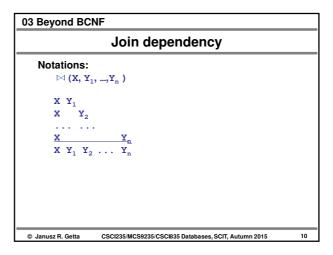
Alternative definition:
A relational schema R is in 4NF if no nontrivial multivalued dependencies are valid in schema R
```

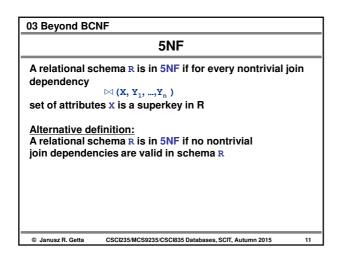


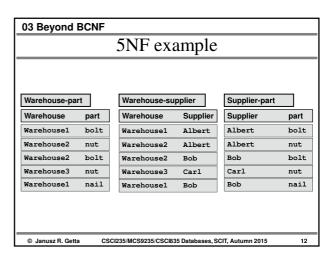












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References	
Elmasri R., Navathe S. B., Fundamentals of Database Systems, chapters 11.3, 11.4	
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