

MCS-274 Decomposition Examples

Attributes: ID#, First name, Last name, Phone, Address, City, State, ZIP

Abbreviations: IFLPACSZ

Functional Dependencies: $I \rightarrow FLACSZ$, $ACS \rightarrow Z$, $AZ \rightarrow CS$:

#	Decomposition	BCNF?	Lossless?	Dependency preserving?	Notes
1	IFLPACSZ	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	start
2	IFLACSZ, IP	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	partially decomposed
3	IFLACS, IP, ACSZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	nice
4	IFLAZ, IP, ACSZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	another nice one
5	IF, IL, IP, IA, IC, IS, IZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	too fine grained
6	IF, LP, AC, SZ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	lousy
7	IF, IL, IP, IACS, ACSZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	why so many tables?
8	IFL, IP, ACSZ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BCNF, 3 tables-but...
9	IFLACS, P, ACSZ	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	don't use this schema

Suppose the Post Office eliminates a few weird cases and we have $Z \rightarrow S$. How does the example change?