

both named Kim, work at the university and have the following tuples in the relation on schema *employee* in the original design:

(57766, Kim, Main, Perryridge, 75000)
(98776, Kim, North, Hampton, 67000)

Figure 7.3 shows these tuples, the resulting tuples using the schemas resulting from the decomposition, and the result if we attempted to regenerate the original tuples using a natural join. As we see in the figure, the two original tuples appear in the result along with two new tuples that incorrectly mix data values pertaining to the two employees named Kim. Although we have more tuples, we actually have less information in the following sense. We can indicate that a certain street, city, and salary pertain to someone named Kim, but we are unable to distinguish which of the Kims. Thus, our decomposition is unable to represent certain important facts about the university

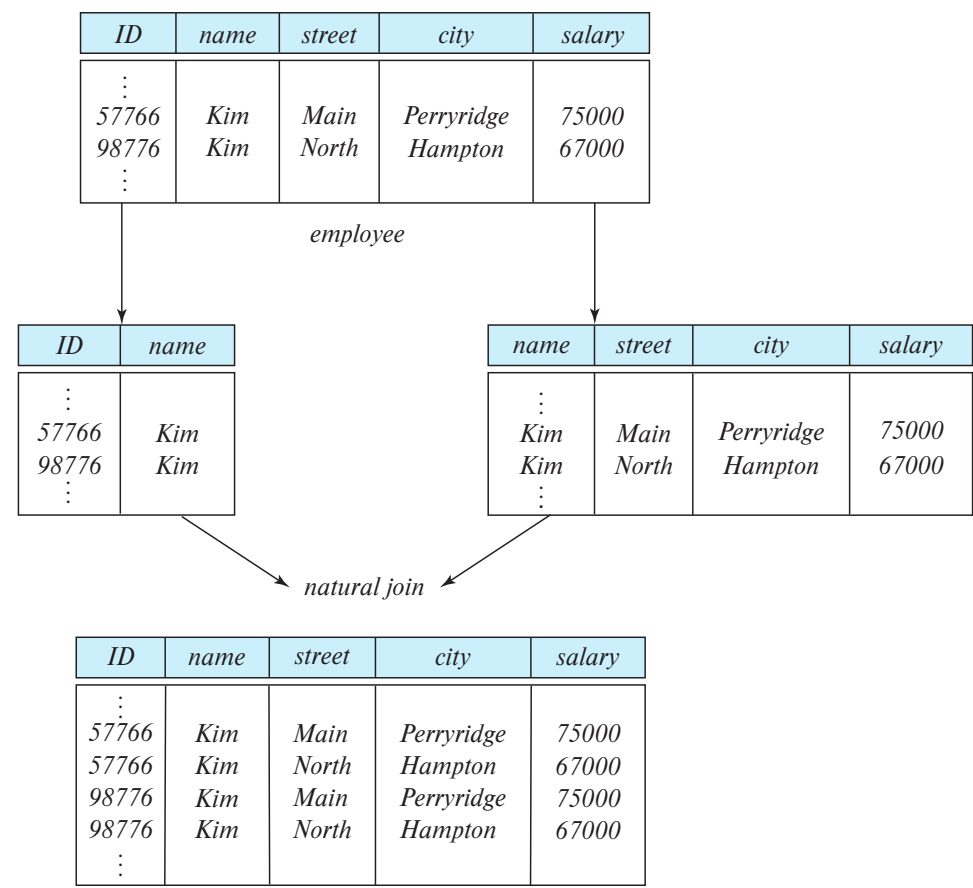


Figure 7.3 Loss of information via a bad decomposition.