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The answers are given below:

1. The definition, relation R is 4NF if they follow the conditoins:

1.not contain MVD’S and

2. R is in bcnf or 3nf.

MVD means for a dependency A → B, if for a single value of A and multiple value of B exists, then the table may have multi-valued dependency.

In 3NF the condition will be each non-trival function dependency A → B mean as one key have only one attribute. And this can follow bcnf to.and bcnf is 4nf.

It follows 3NF →BCNF→4NF .That’s why if a relation scheme is in BCNF and at least one of its keys consists of a single

attribute, it is also in 4NF.

2. The definition of 5NF , relation R is in 5NF if :

1. it is 4NF

2.not contains any join dependency.

5NF follows BCNF or 3NF and 4NF means the relations scheme is 3NF and they have non trival property .that’s why if a relation scheme is in 3NF and each key has a single attribute, it is also in 5NF.