

Name: _____

Choose the most restrictive normal form of (1st, 2nd, 3rd, BCNF) that the following schema satisfies and briefly explain why it is the appropriate one.

<u>Student</u>	<u>Semester</u>	<u>Course ID</u>	
<u>Course ID</u>	<u>Semester</u>	<u>Room</u>	Instructor

Which is more general functional dependencies or multivalued dependencies, or are they equivalent? Explain.

Give an example of a multivalued dependency and describe why it is a multivalued dependency.

Why would you use Domain Key Normal Form?

Name: _____

Are the following two sets equivalent?

Set X	Set Y
$A \rightarrow C$	$A \rightarrow C$
$C \rightarrow B$	$C \rightarrow B$
$B \rightarrow C$	$B \rightarrow C$
$BE \rightarrow F$	$C \rightarrow F$
$F \rightarrow CD$	$E \rightarrow F$
	$F \rightarrow CD$

Give a minimal set of functional dependencies for one of the above sets, indicate which set it is for.

Show the application of three different inference rules to the previous set of functional dependencies. Clearly label each inference rule application.

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Are the following two sets equivalent?

Set X	Set Y
$A \rightarrow C$	$A \rightarrow C$
$C \rightarrow B$	$C \rightarrow B$
$D \rightarrow C$	$B \rightarrow C$
$BE \rightarrow F$	$C \rightarrow F$
$F \rightarrow CD$	$E \rightarrow F$
	$F \rightarrow CD$

Give a minimal set of functional dependencies for one of the above sets, indicate which set it is for.

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