Responses for the Reading Questions 6

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Nonsingular Matrices

1 In your own words state the definition of a nonsingular matrix.

Nonsingular matrix a square matrix that has trivial solution. Also identity matrix is always a nonsingular matrix.

2 What is the easiest way to recognize if a square matrix is nonsingular or not?

We can recognize the singularity of a square matrix by looking at its trivial solution. We have a nonsingular matrix if the square matrix has a trivial solution, otherwise the square matrix is a singular matrix.

3 Suppose we have a system of equations and its coefficient matrix is nonsingular. What can you say about the solution set for this system?

The solution for the system of equations must be a unique solution, and the solution for its coefficient matrix is a trivial solution since the matrix is an identity matrix.