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**MAT 204**

**(1.)**

1. **Singular matrices:** If the determinant of a matrix is equal to zero, then the matrix is called a Singular-Matrix.
2. **Non-singular matrices:** If the determinant of a matrix is not equal to zero, then the [matrix](http://researchhubs.com/post/maths/fundamentals/basic-of-matrix.html) is called a non-singular matrix.

**(2.)**

 **Examples:**

1. 1 2

-2 -4 = Matrix A

Determinant of matrix A =

(-4\*1) -(2\*-2) = -4 – (-4) = 0

Therefore, Matrix A is a Singular Matrix.

1. 1 2

3 2 = Matrix B

 Determinant of matrix B =

(2\*1) -(3\*2) = 2– 6 = -4

Therefore, Matrix B is a Non-singular Matrix.

1. 1 2

1 2 = Matrix C

 Determinant of matrix C =

(2\*1) -(1\*2) = 2–2 = 0

Therefore, Matrix C is a Singular Matrix.

1. 2 4

2 8 = Matrix D

Determinant of matrix D =

(8\*2) -(2\*4) = 16 – 8= 8

Therefore, Matrix D is a Non-singular Matrix.

1. 1 4

2 8 = Matrix E

Determinant of matrix E =

(8\*1) -(2\*4) = 8 – 8 = 0

Therefore, Matrix E is a Singular Matrix.