$\boldsymbol{A}$ is $\boldsymbol{n}$ by $\boldsymbol{n}$

Nonsingular	***Singular***
$\boldsymbol{A}$ is invertible	$\boldsymbol{A}$ is not invertible
The columns are independent	The columns are dependent
The rows are independent	The rows are dependent
The determinant is not zero	The determinant is zero
$Ax = 0$ has one solution $x = 0$	$Ax = 0$ has infinitely many solutions
$Ax = b$ has one solution $x = A^{-1}b$	$Ax = b$ has no solution or infinitely many
$\boldsymbol{A}$ has n (nonzero) pivots	$\boldsymbol{A}$ has $r < n$ pivots
$\boldsymbol{A}$ has full rank $r = n$	$\boldsymbol{A}$ has rank $r < n$
The reduced row echelon form is $R = I$	R has at least one zero row
The column space is all of	The column space has dimension $r < n$
The row space is all of	The row space has dimension $r < n$
All eigenvalues are nonzero	Zero is an eigenvalue of $\boldsymbol{A}$.
Is symmetric positive definite	is only semidefinite
$\boldsymbol{A}$ has n (positive) singular values	$\boldsymbol{A}$ has $r < n$ singular values