



























Division by zero during forward elimination steps in *Gaussian elimination with partial pivoting* of the set of equations [A][X]=[C] implies the coefficient matrix [A]







## Determinants If a multiple of one row of $[A]_{nxn}$ is added or subtracted to another row of $[A]_{nxn}$ to result in $[B]_{nxn}$ then det(A)=det(B)The determinant of an upper triangular matrix $[A]_{nxn}$ is given by $det(A) = a_{11} \times a_{22} \times ... \times a_{ii} \times ... \times a_{nn}^{=} \prod_{i=1}^{n} a_{ii}$ Using forward elimination to transform $[A]_{nxn}$ to an upper triangular matrix, $[U]_{nxn}$ . $[A]_{n \times n} \rightarrow [U]_{n \times n}$ det(A) = det(U)http://nm.mathforcollege.com







