7. Generalised inverse, Numerical integral

1. Write an m-file to find the generalised inverse of a given matrix.
   The name of file: `geninv`

   - Input argument: the matrix (A).
   - Output argument: The generalised inverse (A^+)
   - Use the rank factorisation if the matrix is not fullranked. For the matrix operations we can use the included functions of Matlab (eg.: `rank`, `inv`, instead of solving LES we can use the command `G=F\A`, etc.)

2. Write an M-file for using composite quadrature formulas.
   The name of the function be: `numint`

   - Input arguments: integrand (as a string), the endpoints of the interval (a, b), number of divisors (n) type of the quadrature (rectangle, trapezoid, simpson)
   - Output argument: the result of the integral.