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```
function E = EccAnomFromMeanAnom( Me, e, tol )
%
% Use the Newton Raphson method to solve Keplers equation:  $E - e \sin E = Me$ 
%
% Inputs:
%   Me   Mean anomaly (rad)
%   e     Eccentricity ( $0 \leq e < 1$ )
%   tol   Error tolerance. Optional.
%
% Outputs:
%   E     Eccentric anomaly (rad)
%
if nargin<3
    tol = 1e-8;
end

% initial guess
if( Me>pi )
    E = Me - e/2;
else
    E = Me + e/2;
end

dist = 1;
while dist>tol

    % compute function value and function derivative value
    f = E-e.*sin(E)-Me;
    fp = 1-e.*cos(E);

    % distance between current and next iterate
    dist = max(abs(f./fp));

    E = E-f./fp;
end
```

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