```matlab
function [M,E] = joshAnomalyCalculator(ecc,theta)
% M will be Me,Mp or Mh depending on ecc
% E will be Eccentric Anomoly when applicable or F: hyperbolic Ecctric
% anomoly. E will be set to
% values in Rads
arguments
    ecc (1,1) double {mustBeReal}
    theta (1,1) double {mustBeReal}
end

if ecc <1 % Me & E
    E = 2*atan(sqrt((1-ecc)/(1+ecc))*tan(theta/2)); % definintion of E,
 rewriten to solve E
    M = E-ecc*sin(E); % definition of M
elseif ecc > 1 % Mh & F
    E = log((sqrt(ecc+1)+sqrt(ecc-1)*tan(theta/2))/(sqrt(ecc+1)-
sqrt(ecc-1)*tan(theta/2)));
    M = ecc(sinh(F)-F);
else % ecc == 1 Mp
    E = nan; % This is a rare case and E doesnt have a definition for ecc == 1
    M = .5*tan(theta/2)+(1/6)*tan(theta/2)^3;
end
end
```

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