```matlab
% -------------- inputs ------------------
f = @(x) (x+4)*x*x-10;
a = 1;
b = 2;
% tolerance
TOL = 1e-4;
% maximum number of iterations
NI = 50;
% ------------------------------------------------------

% STEP 1: initialization
i = 1;
fa = f(a);
converge = false; % convergence flag
% STEP 2: iteration
while (i<=NI)
    % STEP 3: compute p at the i's step
    p = a+(b-a)/2;
    fp = f(p);
    % STEP 4: check if meets the stopping criteria
    if (abs(fp)<eps || (b-a)/2 < TOL) % eps is Matlab-machine zero
        converge = true; % bisection method converged!
        break; % exit out of while loop
    else
        % STEP 5
        i = i+1;
        % STEP 6
        if fa*fp > 0
            a = p;
            fa = fp;
        else
            b = p;
        end
    end
end

if converge
    fprintf('\n\nApproximate solution P = %.8f\n',p)
    fprintf('With F(P) = %.3e\n',fp)
    fprintf('Number of iterations = %3i\n',i)
    fprintf('Tolerance = %.3e  (b-a)/2 = %.3e\n',TOL, (b-a)/2)
end
```

Approximate solution P = 1.36517334
With F(P) = -9.358e-04
Number of iterations = 14
Tolerance = 1.000e-04 (b-a)/2 = 6.104e-05

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