```matlab
h = 0.1;
x = 0:h:1;
n = length(x);

a = zeros(n, 1);
b = zeros(n, 1);
c = zeros(n, 1);
d = zeros(n, 1);

del = zeros(n,1);



% taking initial guess to AP
y = zeros(n,1);
y(1) = 0;
y(n) = 1;
diff = (1-0)/(n-1);
for i=2:n-1
    y(i)=y(i-1)+diff;
end


eps = 0.00001;
err = 1;

while err > eps
    a = zeros(n,1);
    b = zeros(n,1);
    c = zeros(n,1);
    d = zeros(n,1);
    del = zeros(n,1);
    for i = 2:n-1
        a(i) = f_m(y(i-1),y(i),y(i+1),h);
        b(i) = f_d(y(i-1),y(i),y(i+1),h);
        c(i) = f_p(y(i-1),y(i),y(i+1),h);
        d(i) = f_i(y(i-1),y(i),y(i+1),h);
    end

    a(2) = 0;
    c(n-1) = 0;
    del = zeros(n,1);

    % Thomas algorithm

    gamma = zeros(n,1);
    beta = zeros(n,1);
    gamma(2) = c(2)/b(2);
    beta(2) = d(2)/b(2);
    for i=3:n-1
        gamma(i) = (c(i))/(b(i)-a(i)*gamma(i-1));
        beta(i) = (d(i)- a(i)*beta(i-1))/(b(i)-a(i)*gamma(i-1));
```

```matlab
        end
    del(n-1)=beta(n-1);
    y(n-1)=y(n-1)+del(n-1);
    err = del(n-1);
    for i=n-2:-1:2
        del(i) = beta(i) - gamma(i)*del(i+1);
        if(abs(del(i))>err)
            err = abs(del(i));
        end
        y(i)=y(i)+del(i);
    end

end
Y


xmesh=linspace(0,1,11);
solinit=bvpinit(xmesh,@guess);
sol=bvp4c(@bvpfcn,@bcfcn,solinit);
plot(sol.x,sol.y(1,:),'b',x,y,'o');
grid on;
xlabel('X');
ylabel('Y');
legend('Actual Y', 'Calculated Y');


function dydx=bvpfcn(x,y)
dydx=zeros(2,1);
dydx=[y(2)
      (1-y(2))/y(1)];
end
function res=bcfcn(ya,yb)
res=[ya(1)-0
      yb(1)-1];
end
function g=guess(x)
g=[exp(x)
    exp(x)];
end

function y=f_i(y_i_m,y_i,y_i_p,h)
    y=1 - y_i*(y_i_m+y_i_p-2*y_i)/(h^2) - (y_i_p-y_i_m)/(2*h);
end
function y=f_m(y_i_m,y_i,y_i_p,h)
    y=y_i/(h^2)-1/(2*h);
end
function y=f_p(y_i_m,y_i,y_i_p,h)
    y=y_i/(h*h)+1/(2*h);
end
function y=f_d(y_i_m,y_i,y_i_p,h)
    y=(y_i_p-4*y_i+y_i_m)/h^2;
end
```
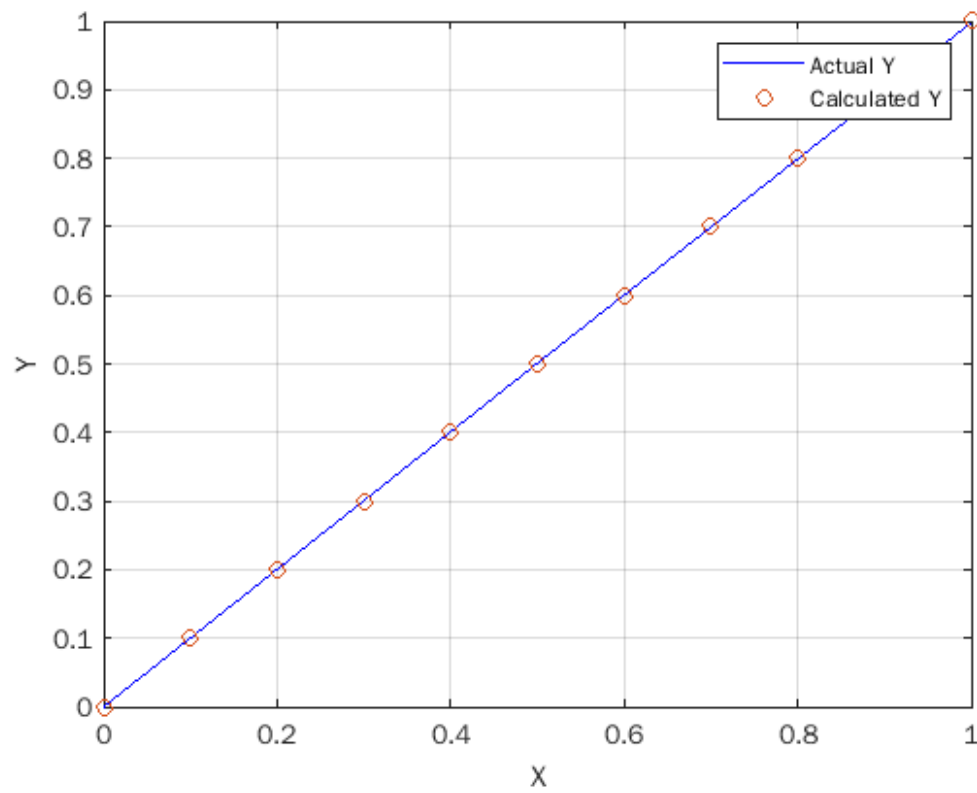
Y =

           0
      0.1000
      0.2000
      0.3000
      0.4000
      0.5000
      0.6000
      0.7000
      0.8000
      0.9000
      1.0000

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