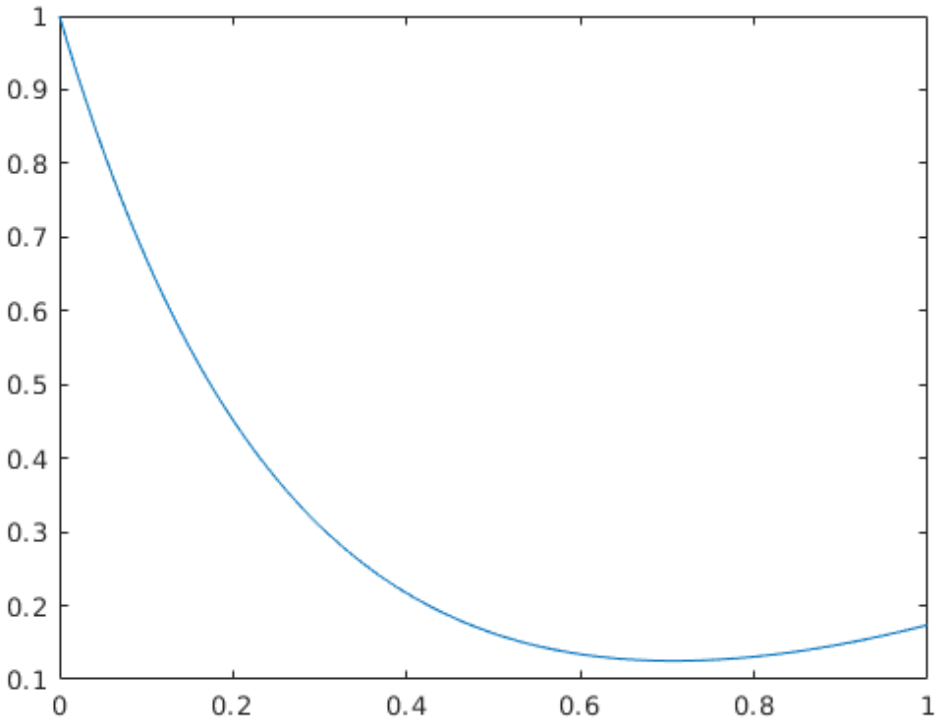
```
function main
    clc

    % For a different problem define a different fexp
    [xsol, ysol] = taylor(0,1,@fexp,1,0.01);
    plot(xsol,ysol);
end

function [xsol, ysol] = taylor(x,y,fexp,xstop,h)

    if size(y,1) > 1
        y = y';
    end

    xsol = zeros(2,1);
    ysol = zeros(2,length(y));
    xsol(1,1) = x;
    ysol(1,:) = y;
    k = 1;
    while x < xstop
        h = min(h,(xstop-x));
        d = feval(fexp,x,y);
        hh = 1;
        for j = 1:4                     % For nth order solution do j
 = 1:n and define derivate dy and y upto nth derivative
           hh = hh*h/j;
           y = y + d(j,:)*hh;
        end

        x = x+h;
        k = k+1;
        xsol(k,1) = x;
        ysol(k,:) = y;
    end

end

function d = fexp(x,y)
   d = [
       x^2-4*y;
       2*x-4*x^2+16*y;
       2-8*x+16*x^2-64*y;
       -8+32*x-64*x^2+256*y;
       ];
end
```



Published with MATLAB® R2017b