Contents


```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Exercise 6    TTK4130     Helene Hogstad Fossum                            %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

PROBLEM 4C

Parameters

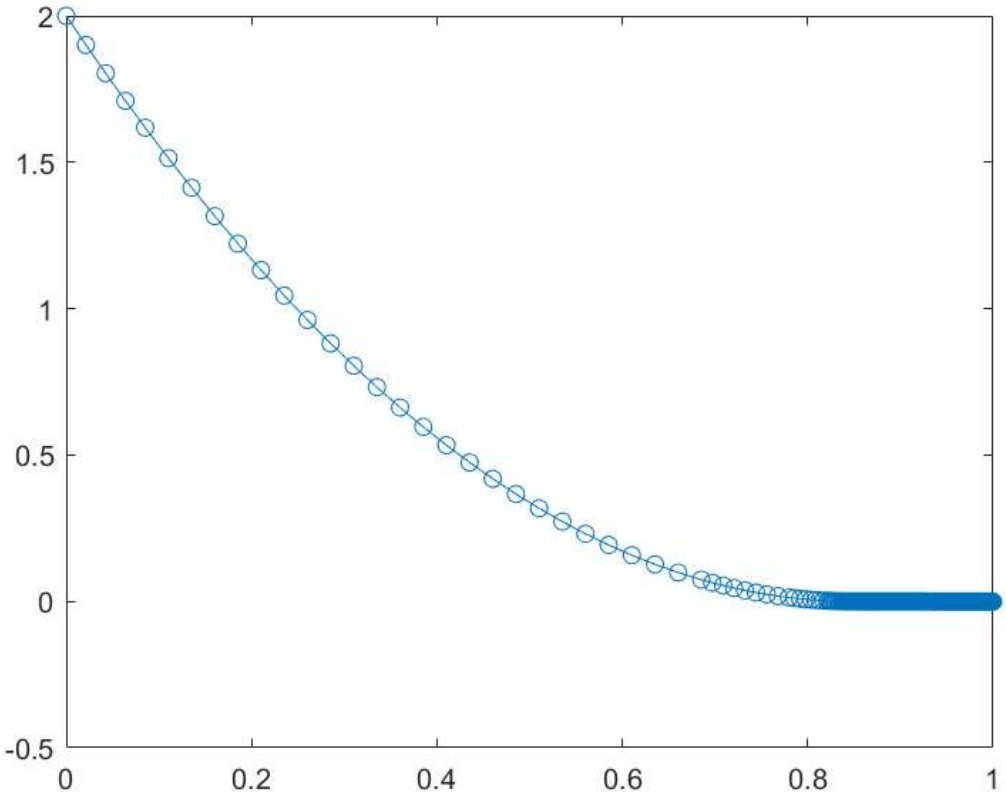
```
rho = 1000;      % [kg/m^3]
A = 4.5;         % [m^2]
g = 10;          % [m/s^2]
C_v = 0.15;      % [m^3/(s*sqrt(Pa))] The valve constant
h_0 = 2;         % [m] Initial value


f = @(t,h)(-C_v/A)*sqrt(rho*g*h);     % The function for dh/dt
tspan = [0 1];                        % The time span we want to simulate

% Solving
[t,h] = ode45(f,tspan,h_0);

% % Plot
 plot(t,h,'o-');
```

```
Warning: Imaginary parts of complex X and/or Y arguments ignored
```



Comments

The steplengths decrases as h approaches 0 as we would expect judging from Problem 4b.

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