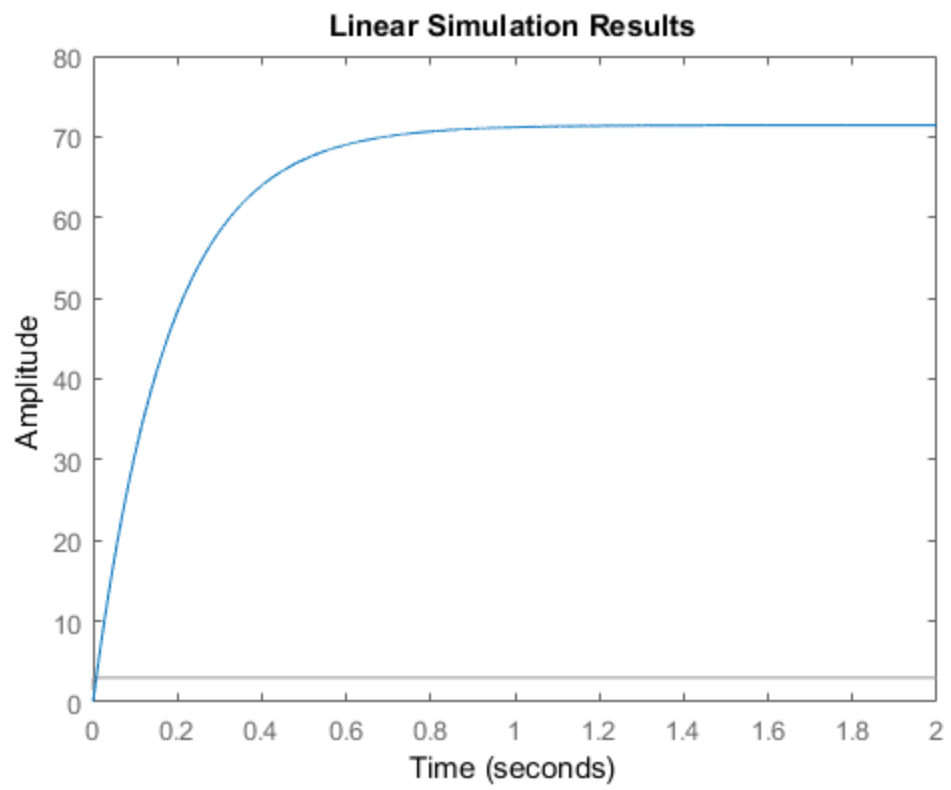

```
clc; clear; close all;
%Parameters
Rm = 8.4;%Terminal Resistance
kt = 0.042;%Torque Constant
km = 0.042;%Motor Back EMF Constant
Jm = 4.0e-6;%Rotor Inertia
Lm = 1.16e-3;%Rotor Inductance
mh = 0.0106;%Load Hub Mass
rh = 0.0111;%Load Hub Radius
Jh = 0.60e-6;%Load Hub Inertia
md = 0.053;%Mass of Disk Load
rd = 0.0248;%Radius of Disk Load
%Approximate Jd based of (md*rd^2)
Jd = md*rd^2;
system = tf([1], [(Lm/kt)*(Jm+Jh+Jd), (Rm/kt)*(Jm+Jh+Jd), km]);
t = linspace(0,2,10000);
inputResponse = 3*heaviside(t);
figure()
lsim(system, inputResponse,t);

% %Test 2
% figure()
% syms s
% transFunc = 3 / ((Lm/kt)*(Jm+Jh+Jd))*s^2 + ((Rm/kt)*(Jm+Jh+Jd))*s +
    km;
% fplot(transFunc, [0,5]);
```



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