

Urbangwyn Childsheim Allwell

Computer Engineering

17/Eng-02 Le48

; 23/11/19

Question 4

1) Command window

Close all

Clear

clc

Syms n(t), t

ODE = diff(n, t, 2)

Pa = diff(n, t)

ySol = dsol(ODE)

Cond 1 = (n == 5) 2

Cond 2 = (n == -0.5)

Cond = (Cond 1, Cond 2)

ySol = dsol(ODE)

t = 0:0.1:1.5

tn = sub(ySol, t)

Plot(tn, t)

2) Command Window

Close all

Clear

clc

Syms y x t

ODE 1 = diff(y, t) - 2 * x = exp(-2*t);

ODE 2 = diff(x, t) + y = exp(-t)

ODEs = (ODE 1; ODE 2)

ySol = dsolve(ODEs)

Cond 1 = (x == 0)

Cond 2 = (y == 0)

Cond = (Cond 1, Cond 2)

ySol = dsolve(ODEs, Cond)

$(x_{\text{sol}}, x_{\text{sol}}) = \text{d solve}(\text{ode}, \text{cond})$

$x_{\text{sol}}(t) = x_{\text{sol}}$

$y_{\text{sol}}(t) = x_{\text{sol}}$

Fplot(x_{sol})

hold on.

Fplot($y_{\text{sol}} \cdot t$)

axis on

grid on