A Technical Report

on

Demonstration of Different Type of Equations

Submitted By:

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Task1: The following are the examples of the system of equations.

$$\begin{cases} x+y-z=2 \\ x+y+z=\frac{5}{2} \\ x+y+z=5 \end{cases}$$

Task2

$$x = a_0 + \cfrac{1}{a_1 + \cfrac{1}{a_2 + \cfrac{1}{a_3+a_4}}}$$

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Task3 Write the following equations for inverted pendulum:

$$\frac{d}{dt}\begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} = \begin{bmatrix} 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 0 & -\gamma & 0 & 0 \\ 0 & \alpha & 0 & 0 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \\ x_3 \\ x_4 \end{bmatrix} + \begin{bmatrix} 0 \\ 0 \\ -\delta \\ -\beta \end{bmatrix} \Delta\mu \tag{1}$$

$$a = b \tag{2}$$

$$\Delta\mu u(t) = K(e(t)) + \frac{1}{\tau_i}\int_0^t e(t)dt + \tau_d \frac{de(t)}{dt}) \tag{3}$$

The equation3 can be refered any places in the document.