Vehicular Electronics HW1

2018324133 김태우

All code is written in matlab.

**Q1.**

**Description**

**Q2.**

**Description**

**Q3**

**Description**

Easily obtained by method from ppt Lecture 1, p.28

**Q4.**

**Description**

Used ss function to generate system from state-space represtentation

Used step to plot unit step response

**Source**

|  |
| --- |
| A = [-1 -1; 6.5 0];  B = [1 1; 1 0];  C = [1 0; 0 1];  D = [0 0; 0 0];    sys = ss(A,B,C,D)    step(sys) |

**Answer**

****

**Q5.**

**Description**

Transfer Function G(s) = C(s)/R(s) , as served.

Used tf function to generate system from transfer function.

To generate unit ramp response, I got unit step response from modified system, where G'(s) = G(s)/s

**Source with comment**

|  |
| --- |
| C = [10 4];  R1 = [1 4 4];  sys1 = tf(C, R1)  subplot(1, 2, 1)  step(sys1)  title('Unit Step Response')    R2 = [1 4 4 0];  sys2 = tf(C, R2)  subplot(1, 2, 2)  step(sys2)  title('Unit Ramp Response') |

**Answer**

