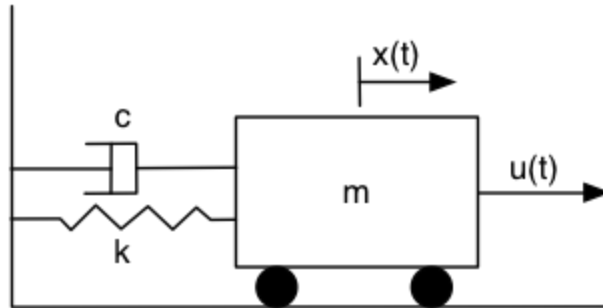


**KALMAN COURSE: Pre-Assessment**

1. Find: min, max, bias, variance, and standard deviation. Given: {1.0,1.0,1.2,1.8, 2.1, 2.1, 2.4, 2.5}

2. Given system diagram, find dynamic state space equations



3. Use matrix algebra to solve for x in a system of linear equations

$$B = A*x; B = [ 1 \ 0; 0 \ 1]; A = [ 5 \ 0; 5 \ 4]$$

4. What is  $e^{Ct}$  if  $C = [0 \ -x; x \ 0]$ ?

5. Given  $P(z|open)=0.7$ ,  $P(z|close)=0.2$ ,  $P(open)=P(close)=0.5$ , find  $P(open|z)$ .