EE425: Homework 1

Due on 27 August 2013 before 2pm at the BE Office
(homework not accepted in class)

1. Given the following Bernoulli Distribution, show the derivation of $mean(x)$ and $var(x)$.

$$f(x) = \begin{cases} \theta & if\ X = 1 \\ 1-\theta & if\ X = 0 \\ 0 & otherwise \end{cases}$$

2. Show that $\sum_i x_i(x_i - \bar{x}) = \sum_i (x_i - \bar{x})^2$.

3. Show that $\sum_i x_i(y_i - \bar{y}) = \sum_i (x_i - \bar{x})(y_i - \bar{y})$.

4. Problem C.1 of the Appendix C (see next page)

5. Problem C.2 of the Appendix C (see next page)