COS 598A, Spring 2012
Homework #8 notes

Corrections:

12.2: The (re)definition for $\rho(x)$ is incorrect, and should instead be:

$$\rho(x) \doteq C(\pi(x), F(x)) - C_{\min}(\pi(x)).$$

12.5: In parts (a) and (b), all occurrences of $\widehat{\text{risk}}(\cdot)$ should be replaced by $\ln\left(\widehat{\text{risk}}(\cdot)\right)$. In particular, in part (a), you should instead show:

$$\ln\left(\widehat{\text{risk}}(F_{t-1} + \alpha h)\right) \leq \ln\left(\widehat{\text{risk}}(F_{t-1})\right) - \alpha \sum_{i=1}^{m} D_t(i) y_i h(x_i) + \frac{\alpha^2}{2}.$$

And in part (b), you should show

$$\ln\left(\widehat{\text{risk}}(F_t)\right) \leq \ln\left(\widehat{\text{risk}}(F_{t-1})\right) - c_t \sum_{i=1}^{m} \sum_{j=1}^{n} w_j D_t(i) y_i \hat{h}_j(x_i) + \frac{c_t^2}{2}.$$

Finally, the expression appearing in the hint for part (b) should instead read:

$$\sum_{j=1}^{n} |w_j| \ln\left(\widehat{\text{risk}}(F_{t-1} + c_t \text{sign}(w_j)\hat{h}_j)\right).$$