

### Homework 13 (additional problem)

Introduction to Probability - MATH/STATS 425, Winter 2012

1. Random variables  $X$  and  $Y$  are jointly distributed according to the joint pdf

$$f(x, y) = \begin{cases} x + y & \text{for } 0 \leq x \leq 1, 0 \leq y \leq 1 \\ 0 & \text{eslewhere.} \end{cases}$$

Compute the covariance  $\text{Cov}(X, Y)$  and the correlation coefficient  $\rho_{X, Y}$ .